

November 1952

# house + home

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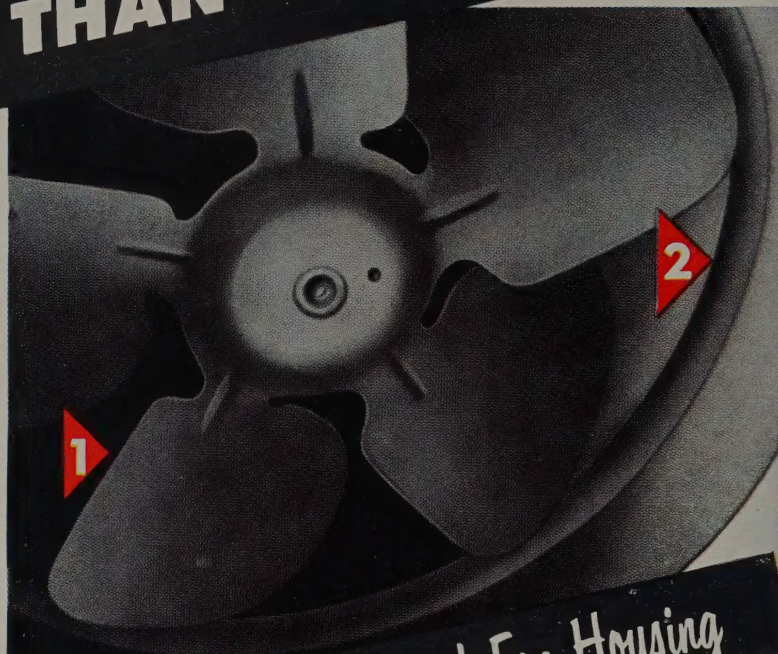
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Warm-air baseboards deliver heat in a hurry where it's needed (p. 150)





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# KOHLER PLUMBING FIXTURES

are used in the 1952 House Beautiful  
*PACE SETTER HOUSE*



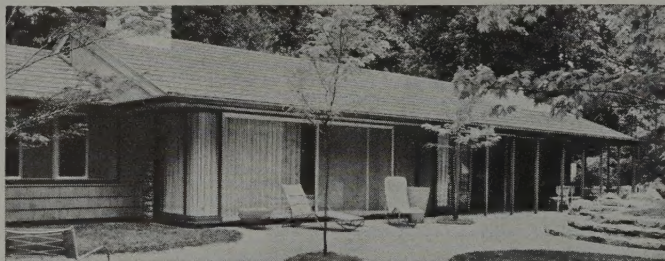
*Kohler Cosmopolitan Bench Bath in bathroom  
off study*

PLUMBING FIXTURES • HEATING

*Owners: Mr. & Mrs. Richard A. Hoefler*

*Architects: Henry L. Eggers and Eugene Schoen  
and Sons, New York City*

*Plumbing Contractor: John R. Philip, Inc.,  
Scarsdale, New York*



In three bathrooms and a laundry, Kohler plumbing fixtures and fittings contribute to the modern comfort, beauty and convenience of the Pace Setter house featured in the November issues of House Beautiful and American Builder. Fixtures used are the Cosmopolitan Bench Bath, Arrowhead built-in lavatory, Trylon and Placid closets and Elswick laundry tray.

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## KOHLER OF KOHLER

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# Reg. X death no help to sales; 900,000 houses forecast for '53

As a fuse to spark lagging home sales, suspension of Reg. X last month proved a dud. Manager T. E. Clutterbuck of the Cleveland Trust Co.'s real estate loan department typified the comment heard across the nation: "The end of Reg. X won't do anything unless something happens to the money market to throw lots of money back into real estate at 4%."

The plain truth was that a buyer's market had arrived in nearly every major metropolitan area. Most builders were making 1953 plans with extreme caution. Grouched builder Roy D. Warren of Atlanta: "The buyer is in the driver's seat and be damned if there is anything we can do to stir him up." As ex-FHA Chief Franklin D. Richards saw it, the industry was headed for overbuilding "unless builders shift more into low-price brackets."

What effect Reg. X's Sept. 15 death had seemed to be concentrated in the \$13,000-\$20,000 bracket. For instance, builder Jerry Miller of Bethpage, L.I., who was selling one or two \$11,500 to \$14,790 homes a week, said his sales shot up to "ten or 15 a week" when X ended. In Dallas, builder Cecil E. Gauling Jr. (\$15,000-\$20,000 homes) reported a "pretty good surge," planned to up production next year.

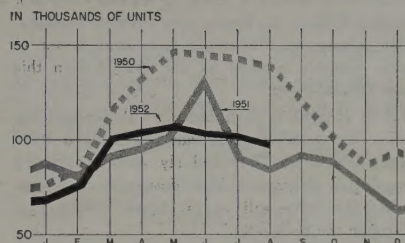
**Crystal ball.** With the first snow flurries, the fall forecasting season for construction arrived. Big question for homebuilders: how much of a drop below this year's probable 1.1 million housing units would 1953 bring? Mighty Prudential Insurance Co.

cast its vote for "a return to a rate of activity somewhat like . . . 1948 (931,600)." Said Prudential: "Some reduction in builders' profit margins could occur, not only because of less intense demand for homes but because of some shift from speculative building to the customer's order."

**Huge potential.** Chief cause of the dip in sight was the well-heralded "trough" in US family formation chief wellspring of housing demand. From 1948 through 1950, family formation averaged 1.4 million a year. But by next year, it will shrink to between 600,000 and 800,000. (NAHB's Leonard Haeger puts the figure at 730,000, after allowing for such influences as the shift away from farms, undoubling and urban migration. To that, he adds a sure market for 60,000 homes to replace those lost in fires and disasters. Total: 790,000).

Only pessimists figure 1953 housing production will sag that low, however. Some 600,000 war-time temporaries are still in use, though most of them cry for demolition. Family size is on the rise. And most economists expect 1953 and following years to bring measurable progress toward a normal (say 3%) vacancy rate, compared to 1950's unhealthy 1.7%.

To Haeger, these prospects create a "demand that is sufficient to make possible production of 1 million houses a year for an almost indefinite period." HHA Administrator Foley forecast last month that 1 million house years can be reached *only* if the industry shifts its geographical distribution,



Source: Bureau of Labor Statistics

**HOUSING STARTS** totaled 98,000 in September, bringing the year's tally to 866,800, or 800 units ahead of 1951. Estimated private starts for the month were 97,100; for the year to date 818,800, or 2.4% more than last year, reflecting surprising demand in the face of high interest rates (conventionals) and tight money supply. Public housing construction was 28% behind 1951.

moves into lower price brackets.

On balance, it looked as though 1953 housing starts (public and private) would not fall far below 900,000.

## Bridgeport public housers approve TV for tenants

In most public housing projects, tenants rich enough to afford a television set must use it on a bootleg basis, hang out antennae under cloak of night and yank it back before dawn. Housing authorities insist TV uses more electricity than contemplated by rents, hence is illegal.

Last month, the Bridgeport (Conn.) Housing Authority accepted TV as inevitable. It arranged with a private firm to install master antennae systems in its 3,500 units (25% of Bridgeport's total rental housing). Tenants will pay the private firm \$60 a year antenna rent. The firm will pay the housing authority \$18 per year per customer for electricity presumably used.

# Cities fight maneuver thwarting end of rent controls

When the presidential race reached the homestretch, vote-conscious Washington tried to reimpose federal rent control in 15 communities (total population 1.9 million) where city councils favored letting it die. The method: designate backsliding communities as critical defense housing areas for rent control only. This automatically nullified local decisions to accept the Sept. 30 decontrol in non-defense areas authorized by Congress, or reimposed control if a community had previously voted for termination.

Akron, Ohio (pop. 275,000) rebelled, promptly voted controls off again. At month's end Denver (pop. 415,000) was following suit. Evansville, Ind. (pop. 128,000) and Cedar Rapids (pop. 72,000) were ex-

pected to do so after the election.

During August and September, the Office of Rent Stabilization recommended that 43 cities be designated critical areas to keep rent control. As required by law, the recommendations went to the Defense Areas Advisory Committee, which in the full year from its inception (Sept. '51) had certified only 124 areas for critical area rent control. To forestall protests by citizens or local officials, the recommendations were kept secret.

**Unconvincing data.** The advisory committee formally rejected 15 of the 43 ORS recommendations, mainly because ORS failed to convince the committee that there were substantial shortages of housing or

substantial in-migrations of defense workers, two of the four criteria required for establishing critical area rent control. The other two: marked expansion of defense or military facilities, and a threat of excessive rent increases.

It approved 22, waited until the eve of rent control's expiration to announce them, then put out the information in such dribbles that almost the entire daily press missed the story altogether. But the number, and the unexpectedness of the designation in cities that had just voted for decontrol was too remarkable for coincidence. Denunciation came fast:

▶ "To keep a lot of people in jobs and keep their noses in other people's business, a bureau in Washington has overruled Congress," cried city



councilman Walter R. Scott in Kansas City, Mo. Mayor William E. Kemp, who favored continuation, concurred: "It would have been better to have controls imposed by the council than this new federal move."

► Said NAREB's Herb Nelson: "Power-mad bureaucrats in Washington can't be stopped by a mere law. . . . They find sly ways of twisting words [to circumvent local desires] . . . Apparently the drive will be to impose rent control through the back door."

In a week, the complaints grew so insistent, economic stabilizer Roger L. Putnam felt impelled to call a special press conference in Washington Oct. 7 to "clarify" what had happened. He confessed the maneuver was indeed no coincidence. The defense areas committee, of which he is chairman, "had stepped up its activity in recent weeks" to beat the Sept. 30 lapse date with its small flood of certifications, Putnam said.

Putnam insisted the designations were all based on conscientious studies of local defense conditions, were not excuses to keep rent ceilings despite local opposition. Then he let the cat out of the bag: except for the advisory committee's action federal rent control would have remained in only six of the 26 areas designated as critical since July 25 (see table).

**Secrecy reversed.** Why hadn't local officials been advised or consulted? Replied Putnam: "Just to avoid stirring up the community." If the defense areas committee failed to approve an ORS recommendation a community might go through a "needless" period of protests, debate or heated controversy. And besides, local officials don't always know as much as federal officials, or know of all federal defense contract plans for an area. Nor would local people necessarily be consulted in the future.

On secrecy, official attitudes flip flopped three days later. Henderson told HOUSE & HOME that he'd had a talk with his boss, Putnam—"and from now on we'll go to the mayor or council and say 'we're in here gathering data to see whether rent control should be imposed under the critical area program'." (And a spokesman said the defense areas advisory committee would give a straightforward answer to any inquiry whether there was an ORS recommendation for any particular city before the committee at any time.)

**Around the nation.** As Sept. 30 passed, ORS estimated that only 30% of the nation's major cities gave up federal rent control, plus about 950 of the 2,400 affected smaller communities. About 7.5 million of the nation's 19 million rental units remained under controls, including all of New York State and the District of Columbia, which have their own rent laws.

Big cities that decided to continue under

the federal rent rule until April 30: Boston, Providence, Jersey City and Newark, N. J.; Philadelphia, Pittsburgh, Chicago, Minneapolis, St. Paul, St. Louis, Cleveland, Cincinnati, Memphis and San Francisco. Among those that voted for freedom: Denver, Kansas City and Harrisburg (all promptly made "critical areas"), Detroit Atlanta, Toledo, Nashville, Des Moines and New Orleans.

Chicago, Cincinnati and Cleveland city council resolutions for control included recommendations for limited rent increases. Chicago and Cincinnati rent advisory boards promptly approved boosts of about 10% above existing levels. In Cleveland, approval came after a slight delay.

**How to end rent lids.** To gain freedom from critical area rent control, a city council can give ten-day notice of a public hearing on whether there is a shortage of rental housing. If it finds there is not, and sends a resolution asking that rent lids be lifted to the President, the controls end. Legally, rent controllers can move in again, reimpose rent control after another public hearing. So far, ORS has not invoked this power. Explained Putnam: "No one here has a desire to get into a running fight with any municipality."

Developments in the cities with the most rebellious reactions:

► Akron—The city council, which voted 10 to 3 for decontrol on Sept. 23, declared after a public hearing Oct. 20 that there was no serious housing shortage, voted 10 to 3 to reject the critical area controls. City law director Roy Browne said the ORS recommendation had been based on inaccurate and unsubstantial information gleaned in a one-man, half-day survey by an HHFA employee from Chicago.

► Denver—On Sept. 15 the city council voted 5 to 4 to let controls die; discovered later that Wash-

ington had decided six days earlier on a critical area designation but held up its announcement until Sept. 29. Mayor Quigg Newton had advance word of the Washington decision from Henderson himself, an old personal friend, but let the council vote for decontrol without telling it so.

On Oct. 6 the redfaced council heard angry protests over the federal tactics, but put off any action until Oct. 20. Then it passed on first reading a resolution declaring there is no housing shortage, set Nov. 6 (after election day) for a public hearing. Observers believed the resolution would get final approval Nov. 10 or 17.

► Cedar Rapids—The surprise designation was based partly on a local employment survey, Washington informed mayor Milo Sedlacek, a Democrat. The Chamber of Commerce director, however, said none of eight of the city's largest industries that he checked, nor the chamber, had been contacted in any survey. Countering an ORS regional representative's statement that the city gained 1,900 in-migrant workers since 1950, the chamber's monthly survey of 27 largest firms, covering 80% of city's employment, found the labor force shrank steadily from 15,977 in January to 14,724 in July, although there was an upturn to 15,236 in August. A recent Community Chest survey of every firm employing five or more persons showed 506 fewer prospects now than a year ago. ORS scheduled a public hearing for Nov. 25, said it might decertify the area then if evidence warrants.

► Evansville, Ind.—The city council, which on Sept. 29 voted 5 to 3 for decontrol, appointed a committee to consider its next step, probably a public hearing after election day. Neutral observers figured ORS might well be right in calling the city rental vacancy rate a slim 0.4%. Moreover, defense work was definitely expanding. But the council, incensed at federal tactics, will probably vote for decontrol, they predicted.

Had Washington won any votes with its rent control circus? Only time might tell. But ORS' backdown in Cedar Rapids report gave a clue to the next development: solicitous acquiescence to local objections by agreeing to some "decertifications" after Election Day.

## RENT CONTROL RUCKUS

In August and September the Office of Rent Stabilization recommended that the Defense Areas Advisory Committee, now part of the Office of Defense Mobilization, classify 43 cities as critical areas to continue or reimpose rent control under the Defense Production Act. City-by-city results:

### RECOMMENDATION ACCEPTED

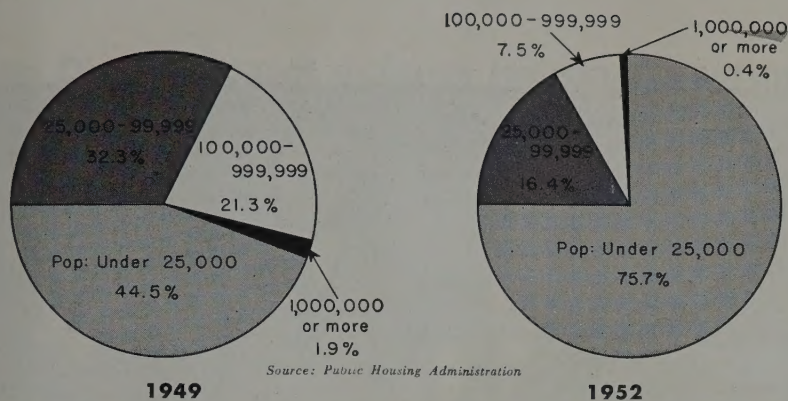
*Akron	*Kansas City, Mo.
*Allentown-†Bethlehem	Milwaukee
*Bay City, Mich.	Monmouth County, N. J.
*Canton-Massillon	
*Casper, Wyo.	*New Castle, Pa.
*Cedar Rapids	†Portsmouth-
†Columbus	†Chillicothe, Ohio
*Denver	*Pueblo, Colo.
*Evansville, Ind.	†Sandusky, Ohio
*Great Lakes-North	*Seward, Alaska
Chicago-Waukegan	*Sioux City
*Harrisburg	†Youngstown, Ohio

### RECOMMENDATION FAILED

REJECTED BY DAAC	†Wilmington, N. C.
*Boulder, Colo.	Wright-Patterson
*Cheyenne, Wyo.	AFB Area (†Dayton-Springfield, Ohio)
†Cincinnati	
*Des Moines	
†Durham, N. C.	
*Goldsboro, N. C.	
*Lexington, Ky.	WITHDRAWN BY ORS
†Mansfield, Ohio	†Albuquerque
†Montgomery-Prince Georges County, Md.	†Altoona
†Raleigh, N. C.	†Baltimore
*Seattle, Wash.	DeKalb, Ill.
†Sidney, Ohio	*Huntington, W. Va.
*Toledo, Ohio	*Lorain, Ohio
	†Wilmington, Del.

\* Rent control was to lapse, or was continued or reimposed against the wishes of city for Sept. 30 decontrol.  
† City voted for continued federal control beyond Sept. 30.





1949

1952

DRIFT OF PUBLIC HOUSING SHOWN BY PERCENTAGE OF PROGRAMS IN CITIES OF VARYING SIZES

## Small towns get 75% of US public housing projects; Texas 608's lose tenants to gov't

At NAHO's annual convention last month, the Fresno County (Calif.) Housing Authority was singled out for a special citation. Its achievement: selling creation of public housing authorities to eight small farm towns and three rural areas in its own and nearby counties in the midst of one of the richest agricultural regions in the nation. The method: "getting support of local governments and local American Legion posts."

The accolade given Fresno's public housers by their fellow workers pointed up some astonishing facts about US public housing:

▶Although most taxpayers think fuzzily of public housing as a program geared to big cities where slums are most notorious, the truth is that since 1949 the small town and the small (under 200 units) program have risen to dominate federal public housing (see charts).

▶In 1949, towns with less than 25,000 population were host to 44½% of US public housing projects. By March 31 this year, that proportion had soared to 75.7%.

▶Adding up its own figures last May, the Public Housing Administration found that 60% of the nation's local housing authorities (excluding rural authorities) administer less than 200 units—even counting units reserved, under construction, and occupied. Forty per cent involved less than 100 units.

**Vacancies cited.** Because miniature public housing programs grow thickest in the South and Southwest, so does controversy over their effect on the economy of the small towns they serve. The Texas Assn. of Home Builders, which tries to keep tab on such things, recently reported seven towns in which it said public housing projects were experiencing vacancies from 15 to 27%. The list:

Town	Population	Units	Vacancy Rate
Bonham .....	7,043	90	30%
Cisco .....	5,216	52	15%
Cooper .....	2,349	30	15%
Henrietta .....	2,820	40	22%
McKinney .....	10,525	80	20%
Quanah .....	4,594	50	20%
Taylor .....	9,083	70	27%

Such cases, say builders, bolster their argument that public housing has spread into a lot of places where it is not needed. For dramatic illustration, they point to the oil and chemical town of Beaumont (pop. 100,000). There, the opening of a 150-unit public housing project for Negroes helped put two privately run 608 apartments for Negroes on the financial rocks. FHA District Director B. D. Tucker of Houston considered the threat serious enough to beg Washington HHFA officials a few weeks ago to stop construction of more proposed public housing in Beaumont. PHA's answer to this, says Executive Director Kelly Smith of the Beaumont Housing Authority, has been to speed up efforts to get 150 more Negro units under construction by Dec. 31, by which time US public housers expect to start all of the 35,000 units Congress has permitted this fiscal year.

**88 tenants lost.** The Beaumont case—probably the first of its kind in the nation but a likely harbinger of more to come—involved a 150-unit 608 project called Hollywood Village, run by attorney-realtor M. L. Lefler Jr., and a 150-unit project called Lincoln Terrace, run by Willis Thames. Both rent two-bedroom units that cost \$5,000 to build for \$39 a month excluding utilities. The public housing project, Neches Park Homes, cost \$11,260 per unit. It rents its one to four-bedroom units for an average of \$21.20 monthly including utilities. Says FHA's Tucker: "If you provide nicer and cheaper housing in an area, you know which people are going to

choose." Adds Lefler: "Rumors spread that (our tenants) would not be eligible for public housing unless they lived in shanties." Result: in a ten-day period three months ago, Hollywood Village lost 51 tenants. Lincoln Terrace lost 22. Plunged into the red, Hollywood Village last month was near the point of foreclosure: Institutional Securities Corp. of New York, which held a \$700,000 mortgage, gave the mortgage back to FHA for debentures. Lincoln Terrace has been granted two six-month deferments on principal payments. For a time, its vacancies held below the 7% on which 608's are calculated, but recently it has recovered.

It is small consolation to Lefler and Thames that the Beaumont Housing Authority cooperated to prevent their ex-tenants from actually moving into Neches Park as planned. Many of the former 608 tenants were eligible under PHA's income rules, ineligible only because they had had adequate housing. Thames, for instance, found his tenants averaged \$38 a week income—\$1,976 a year. The income ceiling for Beaumont public housing was \$2,400. Thames figured 70% of his tenants were eligible for it.

Besides the 150 Negro housing units soon to be started, Beaumont has 200 white public housing units well under way. When they are finished, Lefler is convinced his 240-unit 608 for whites (rentals: \$50 for one-bedroom, \$55 for two, \$60 for three) will suffer the same fate as Hollywood Village.

**Outstrips private housing.** In Hearne, Tex. (pop. 4,778), the 60 public housing units finished last February represented

Rondal Partridge



**RACIAL SEGREGATION** in public housing was ruled unconstitutional by a state judge in San Francisco last month in a suit brought by three Negroes denied admission to the new North Beach public housing project (above), designed by architect Ernest Born. Local housing authority had been conforming to existing neighborhood racial complexion.



nearly as much housing as private operators had built in two years. The result, says Tom Hill of Hill Lumber Co., is that "private building has come to a complete standstill and there is great fear of investment." Chairman O. H. McCollum of the Hearne Housing Authority, however, notes that it was the town's chamber of commerce which supplied the first push for public housing. McCollum also insists the town could use 150 more rental units now, although a third of the public housing tenants come from Bryan Air Force Base, 20 miles away.

Even where private realty has been undamaged by public housing in small towns (usually because of booming defense industry), its emotional impact remains high. Samples:

► In Washington's Grant County, where the Bureau of Reclamation's Columbia basin projects dominate a burgeoning economy, public opposition has been so violent the county housing authority has been able to persuade only one of the six basin towns to build any public housing at all since the war. Oddly, the 12 unit public housing project that is abuilding lies in a resort town, Soap Lake (pop. 1,000), whose principal industry is sanatoriums and tourists. Resort owners fought the project bitterly on the ground it would bring in undesirables. City fathers retorted that people could not spend winter in summer cabins. Now, thinks Executive Director Harvey Fitts of the county housing authority, "opposition is dying down. . . Maybe we can try again next year."

► In Turlock, Calif. (pop. 6,700), a turkey-raising and farming town not far north of Fresno in the rich San Joaquin Valley, a 30-unit public housing project was finished a year ago in September. Because the cooperation agreement was signed before local indignation caught fire, nothing came of protest meetings except a change of site. Even realtors agree the project has not hurt private sales or rentals. Even the housing authority itself admits: "there wouldn't be much support in the town for another development." Principal objection: ideological. Says city councilman Arthur Croll, a building and loan executive: "Things like public housing do away with incentive and hard work. Take those fellows in there now: they just sit around smokin' cigars with their feet up. Hell, I didn't have a bathtub until after I was married eight years. Didn't hurt me any, either. Why, if you were to try to take care of all the worthless, lazy ones in this town, it'd take 1,000 units, not 30."

## US supreme court refuses to act in LA housing row

The year-old battle over public housing in Los Angeles neared its finale. The US Supreme Court refused to review the California Supreme Court's writ ordering the unwilling LA city council to go ahead with a 1949 contract calling for 10,000 public housing units, despite an overwhelming vote by the city this year against the \$110 million project. The state court ordered the council to show cause Nov. 6 why it should not be cited for contempt.



**NEW PRESIDENT** of NAHO is affable, unpretentious Brown Nicholson (third from l), executive director of the Columbus, Ga. Housing Authority. Formerly general manager of a Columbus real estate firm, Nicholson helped organize the authority 14 years ago, served one year as an un-

salaried commissioner. Other 1953 NAHO leaders include (l to r): first vice-president, Ramsey Findlater, director of the Cincinnati Metropolitan HA; Albert N. LeFevre, director of the Benicia, Calif. authority, re-elected to the board of governors, second vice-president J. G. Scheib.

## Public housers hear recommendation for peace conference with private enterprise

Are public housing and private homebuilding irreconcilable? The 1953 convention of the National Assn. of Housing Officials in Buffalo last month listened attentively to two suggestions for establishing some unity between the two camps, which differ bitterly over methods but do have a common objective—more and better housing. If the NAHO meeting did not extend any positive peace feelers to NAHB, NAREB and MBA, at least it developed no new programs to make relations worse.



**HOUSERS HONOR REALTOR:** Ferd Kramer (r), Chicago mortgage banker and realty management specialist, won NAHO's highest award for "distinguished achievement" in urban redevelopment and both private and public housing. Former NAHO president Ernest J. Bohn made the presentation (above). Kramer explained he "worked for public housing in Illinois" because there cannot be a solution to housing problems without the services of both private and public housers. He hoped there would be more co-operation between these two groups.

► Philip Klutznick, former FPHA commissioner who is now co-builder of Chicago's Park Forest, declared the "diabolical division between public and private housing is sheer nonsense that has never achieved anything, and never will." Some "high priests" of both factions appear to be acquiring "some recognition that all is not well" in their running feud, he added, and may be willing to get together to settle their grievances. He suggested that public housers make the first move.

► B. T. Fitzpatrick, general counsel and deputy HHFA administrator, reminded the convention: "[Public housing has] no exclusive monopoly on either desire or ability to clear our slums. Admitting that all they [operative builders] do is not perfect, any fair appraisal also admits that they have done a tremendous job. Moreover, by law, as well as by practical fact, we will. . . look to them and the rest of the private homebuilding enterprise as the *principal instrument*. . . to provide the great bulk of housing required to meet our needs. . . Does anyone believe, . . . that operative homebuilders will ignore the opportunity [if cleared slum areas can be made available for housing development at a fair and reasonable profit]. . . that the directors of banks and other financial institutions do not have a similar interest?"

**Code of ethics.** Convention speakers made no reference to their absent 1947 president, Erwin W. Blum, who was fired as director of the Houston (Tex.) Housing Authority last summer and later indicted on charges that he tried to shake down a subcontractor for \$2,300. But the business meeting adopted without discussion a resolution to appoint a committee to draft a code of ethics.

As of Sept. 1, NAHO had 2,947 individual members, 468 agency members, operated on a budget of \$136,000 a year.



## San Diego: biggest defense housing program among the slowest; now overbuilding feared

After a year and a half of muddle and fumble, the nation's biggest defense housing program—San Diego, 9,000 units—was finally beginning to produce homes in volume last month. Although only 136 homes were actually completed, another 1,040 were in the hammer and saw stage, and prospects were that 2,000 more would be abuilding by year's end.

To a city that had experienced a 30% jump in population in the last two years (334,387 to 443,924 according to a special census survey), this development was generally considered as welcome as the end of a drought. Said Dick C. Wilkins, industrial relations director of Consolidated Vultee Aircraft Corp: "Lack of housing has been our greatest single source of turnover. Since June 1950, we've had to hire 40,000 people to add 16,000 to our payroll."

**Soft market ahead?** Yet more than a few builders wondered if the belated achievement now in sight would turn out to be a blessing or a curse. Said T. J. Lords: "I think the town will be badly overbuilt if this program goes through. If even half of (the 9,000 units) are built, I think we'll be overbuilt." Said Nels Severin, regional NAHB vice president: "We're going on a lot of faith that the aircraft plants and the Navy will provide occupants for the houses that are being built."

Faith in the future is something most San Diegans have aplenty. Blessed with one of the nation's mildest climates, San Diego since World War II has seen a vast immigration of people who want to make it their home because they like its year round warmth, its lack of rain, its pleasant pace. There is no reason to suppose that the migration will cease, even if the Navy people and the aircraft workers who today mean the difference between prosperity and depression for San Diego, should vanish as they did after World War II. Even pessimists agree that time—perhaps as little as a year or two—would take up any forthcoming slack in the city's housing market.

**Largest, slowest.** So far the spotlight of attention has been beamed in the other direction: so many official and unofficial inquiries have been launched into why the nation's largest defense housing program has also been one of its slowest that FHA District Director Edward A. Walsh cracked recently that it was all he could do to find

time for his work between demands for information and explanations.

There was no single scapegoat. In fact, defense building in San Diego—like most defense housing construction across the nation—was saddled with so much red tape, so many major and minor hurdles that Walsh insists: "We're getting along every bit as well as I thought we could."

Much of the blame rested on last year's acute dearth of mortgage money. Part of the blame belonged to HHFA. In its original (long since abandoned) program for San Diego defense housing, it had sale and rental ceilings so low (\$8,500 for sale, \$65 a month rent on two-bedroom units; \$9,500 sale, \$75 rent for three-bedroom units) that builders found they simply could not build at a profit. In ten months, only six units were built. Last November HHFA raised its price ceilings \$10 on rentals, \$700 on sale units, and in January—with Fanny May prior commitments for their shortages—builders finally were in a position to go ahead. Part of the blame also rested on the fact that San Diego has some of the stiffest site development requirements of any big city in the country, and makes private builders foot 100% of the cost.

**Site costs huge.** Inside San Diego, no large areas of flat land suitable for homes are left. Even outside the city, the flat,

arid mesa is interlaced by ravines that mean finger plan site layouts. The city is willing enough to extend its borders to new projects, but builders often find they must first build a mile of sewer and water mains to the nearest city lines. Before a builder can put in a septic tank, the city and county health officers demand soil percolation tests on every lot. As for street improvements, says T. J. Lords: "I've never seen anything like it—they used to demand 4" of hot asphalt; now they'll accept 2" but only if 6" of rock is under it." Lords found that his defense housing project (San Diego Associates, 552 rental units) involved a site preparation cost of \$1,600 per lot.

NAHB Vice President Severin points out: "Most of us had to buy land after the defense housing program began. Then we had to find utilities, engage engineers to study drainage, lay out street plots. There are only about eight principal engineering firms in San Diego. Yet a builder can't use anything but a local engineer when he is starting a new subdivision. There is too much work with local officials. After an engineer has spent 60 days working by himself, he has to go to the FHA, then to the city or county planning commission for plan approval. They study the proposals—in my case it took two months, about par. Then you go to the governing body and try to get accepted into the city limits, which may take 60 days or may take five months. Only after you've gone all that route are you ready to let a contract."



**BIGGEST DEFENSE HOUSING** development is Clairemont, where Burgener-Tavares and four other combines plan to erect 4,322 units. The steep gullies lacing the 3,000 acre site are typical of the treeless mesa land at the north edge of San Diego where much defense housing is located. For their project, Burgener-Tavares had to build a mile of sewer main to connect with city lines.



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## Case history. How does the routine work out for a typical San Diego builder?

Take the case of Clifford O. Boren who as president of the San Diego Home Builders Association might be expected to have less trouble than most. He is building 189 Title IX sale houses, all but 24 of them two bedroomers (802 sq. ft.) priced at \$9,200. For the three-bedroom homes (963 sq. ft.) he may charge \$10,200. They lie in three different tracts. Says Boren: "FHA threw me a left-handed curve. In one tract where I had 42 lots, they allocated me only 22 defense houses. In another place where I had 140 lots, they allowed me 71. Where I had 183 lots they gave me 96. But I can't afford to build at those prices unless I build the whole tract. I'm building the balance under VA."

When the trimmed-down allocations came through last Dec. 27—upsetting his mortgage arrangements for 335 homes, Boren had to take a chance. Fanny May's prior commitment authority was fast running dry (it ran out the next day). Boren grabbed a plane for Los Angeles, plunked down \$25,000 as the required 2% deposit on a Fanny May take-out for his defense housing allocations, gambling that he could find a lender and get under way within 45 days or lose his money. He got loans from the Bank of America, Valley National and San Diego Federal Savings & Loan Association (paying 2½ points).

Fortunately the two month deluge of rain that prevented any construction at all in San Diego last December and January did not effect Boren. It was March 18th before he was ready to take out building permits and nearly a month later before construction actually got under way. "Then a lot of tracts began all at once," Boren recalls, and so there was a labor shortage." By mid-September, about half of his 189 homes were complete. But Boren was beginning to experience danger signals of a soft market. Twenty-five homes had been finished a week, were still vacant because, although he had "sold the whole tract at least three times," the buyers had been rejected because of credit rating or because they did not meet HHFA's strict rules of eligibility.

**Speedup.** One result of the long delay is that HHFA has been under mounting pressure to put more public housing into San Diego. So far the agency has resisted successfully, with the blessing of the city council which would like to get rid of many of the 13,500 public housing units left over from World War II. Although de-

fense housing has been slow, nondefense housing has boomed.

There are 2,353 Wherry Act units built, under way or on the drawing boards for the San Diego area. Moreover, since January 1st private builders have received commitments from FHA for 2,423 homes under FHA's regular Sec. 203 program. Says real estate analyst James Downs of Chicago: "San Diego is building homes at twice the per capita rate of any other city in the US."

It is doing so with practically no help from VA. Since the bribery scandal in San Diego's VA office, a new regime has leaned over backwards so far to enforce not only the spirit, but every letter of every law that many a San Diego builder insists that "it's almost impossible to do business with VA any more." Biggest irritant: VA will accept no FHA inspections, insists on slightly different specifications. Prophecies one big builder: "They're not wrong—only super technical, but they may kill the program in the San Diego area."

**The permanent 'temporary.'** If San Diego shows signs of temporary over-building, says assistant HHFA Administrator Neal Hardy, "the logical thing to do would be to tear down some of the temporary public housing units left from World War II."

HHFA has tried to get this done before, but as HHFA area economist Robert Filley points out: "When we try to evict over-income families, we get the complaint from the Navy, or Ryan or Consolidated Vultee: 'You're knocking out our best people'." Recently, community pressure for demolition has grown. In a report for the San Diego Chamber of Commerce, Rear Adm. Ray Tarbuck, who retired after a tour as inspector general of the 11th Naval district at San Diego, characterized the 1,532 Lanham temporaries still scattered around San Diego as "a disgrace to the community" with "poor management,

Photos: Young & Richardson



**FIRST WHERRY ACT** project, 895 unit Cabrillo Heights, opened Sept. 2. Architect C. J. Paderewski, cousin of the late pianist, said a close-packed layout was "the only thing that worked within price limits (\$6,100 per unit)." Buildings are wired for TV reception.



**400 VACANCIES** exist in permanent public housing duplexes like these controlled by Navy, because sailors prefer to scrounge for private quarters rather than lose rental allowance. A report by Rear Adm. Ray Tarbuck, USN ret., called these units "perfectly adequate quarters" for some brackets.

non-cooperative tenants, gutters littered with trash and garbage, jerry-built fences." Concluded the admiral: "They . . . add to the slums rather than to slum clearance . . ."

As analyst Downs observes, the trouble with planning how much defense housing should be built, is that even housing officials who ought to know better "always forget that the lag between scheduling and occupancy is so long that people solve their own housing problems in the meantime." Aircraft employment in San Diego reached a peak this summer. The peak in housing output will not be reached until next summer.



**TYPICAL DEFENSE HOMES** like these \$9,200 sale units (above) are unimaginative but solidly built of frame and stucco. Says FHA's E. A. Walsh: "Defense housing is minimum housing, but good, comfortable housing."

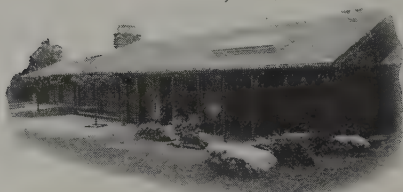
**LANHAM ACT TEMPORARIES** (left) managed by public housers were branded "disgrace to the community" by Tarbuck report. San Diego has 1,532 of these ten-year-old remnants of the last war.



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# MORTGAGE BANKERS, meeting in Chicago, hear Foley announce Fanny May 'one for one' plan, push study of mortgage stabilization

Photos: Arthur Siegel



**MORTGAGE ROUND TABLE** produced convention's only fireworks as lenders bombarded VA's Bert King (second from left, studying a paper) with angry denunciations of VA's refusal to raise 4% interest on GI home loans, applauded a suggestion to merge VA with FHA program which would have the effect of putting VA out of business.



**DEFENDING 4% RATE**, King rehashed old argument that private sources still buy a sizeable volume of GI loans (from the floor came cries of "no, no, no"). Showing of hands indicated most VA loans move at 97, some at 96. Suggested NAHB President Alan Brockbank (r): "I think we ought to quit building VA houses . . . to get action."



Brown L. (for Lee) Whatley (l), new MBA president, receives congratulations from outgoing president Aubrey Costa (r) and new vice president Will Clarke. Whatley, 52, balding, bifocaled, and boom-voiced, is president of Stockton, Whatley, Davin & Co. of Jacksonville, Fla. which he ranks as the nation's third largest mortgage correspondent and servicing firm (last year it serviced loans totaling \$162½ million).

A onetime newspaper reporter (Atlanta JOURNAL and CONSTITUTION), Alabama-born Whatley launched a weekly in Miami Beach in 1923, sold it to go into advertising and promotion which in turn led him into realty as advertising manager of Jacksonville's Telfair Stockton & Co. He quit as executive vice president in 1937 to organize his own mortgage firm, but merged again with his ex-boss, Jim Stockton, in 1946 to form the present combine. Whatley's hobbies: fishing in his 42' cruiser, painting landscapes.

HHF Administrator Raymond M. Foley picked the Mortgage Bankers' Assn. convention at Chicago's Conrad Hilton hotel to announce the government's No. 1 housing move of the month: starting that day (Oct. 1), Federal National Mortgage Association would give a three month trial to the "one for one" reciprocal mortgage purchase plan long urged on it by homebuilders.

Fanny May would simply give companies that bought nondefense, nondisaster mortgages out of its \$3.1 billion portfolio a non-transferable receipt entitling them to sell an equal dollar amount of VA or FHA mortgages (except defense, military and disaster) back to Fanny May any time within the next 12 months. To make certain it would have over-the-counter money to keep its end of the plan, Fanny May would earmark and set aside funds each month equal to the amount of mortgages it sells. That was not quite a contract to buy future loans. Fanny May lacks Congressional authority to make one for ordinary mortgages. It was, as Foley pointed out, as close to a contract as the law allowed. As added bait, Fanny May would waive the usual 60-day waiting period in buying loans covered by purchase receipts.

**Good loans for bad?** It did not take canny mortgage bankers—even those who do not like Fanny May, would rather see it liquidated—long to scent bonanza in the new scheme. As announced by Foley, the plan permitted purchasers of FHA loans to sell VA loans (and vice versa). Because FNMA will buy and sell only at par and

**MORTGAGE STABILIZATION** committee, said Chairman Aksel Nielsen (second from l), "expects to consult with anybody and everybody on why past plans didn't work and what might make a new setup function properly." Others (l to r): Will A. Clarke, Aubrey Costa, Brown Whatley, and (seated) Franklin D. Richards, James W. Rouse (standing), Ferd Kramer, John F. Austin, Jr., Sam Neel.





requires certification that the loans it gets have moved at par all the way, no quick fortunes were in sight for discount manipulators. But two profitable types of deals mushroomed immediately:

► To reduce the total discount that a lender, builder or homebuyer (indirectly) might otherwise pay, a lender sells new loans to FNMA at par. He buys an equal amount of seasoned loans from FNMA at par, sells these to a private institution. But the seasoned loans bring a higher price than the new ones would have.

► A lender buys seasoned FHA loans from FNMA at par. These can be disposed of at little or no discount to the private market. Thus the lender has a receipt which enables him to sell VA loans to FNMA at par. Because the VA loans would otherwise bring only 96 to 97½, the lender can make a deal that would not be possible without the FNMA federal crutch. He picks up, say, a 2½ point originating fee on the new loans, and, say, \$25,000 worth of servicing profit a year on the old HFA loans.

However the plan works, it looked mostly like a political device for creating a false impression that 4% or 4¼% loans are readily marketable.

**Central bank study.** The four-day convention drew a record 2,360 registrants, produced these other developments:

► MBA voted an initial fund of \$15,000 to hire a staff of experts to make a complete study of how a private central mortgage bank might be created. Objective: cushion the ups and downs of the private secondary mortgage market without FNMA abuses.

## Defense housing loses glamor for builders as end of Reg. X removes main benefits

With Reg. X eclipsed, the defense housing program was beginning to lose its appeal even to the homebuilders who had championed it most. While credit curbs lasted, defense housing offered much lower down payments which made sales easier. With the regulation in limbo, the difference between the down payments required under FHA Title II and Title IX was shaved roughly in half.

Moreover, Title IX remained surrounded by extra red tape. While still determined to live up to their promise to build all the defense housing anyone would finance, builders felt HHFA and FHA had fallen considerably short of making good their promises. Items:

► Despite promises to switch to an amenity approach, FHA generally was still clinging to the "debt service formula" for Title IX homes built for two years of rent before they are sold. The result: endless bickering over valuations on many a project.

► To squawks of overprogramming in some

► Both VA's Bert King and FHA's Walter Greene said no increase in VA or FHA interest rates was in prospect "this year." Despite such public denials, top government officials were already discussing a boost in the VA rate. Indications were the VA itself was the principal holdout. Action might come any time after the election. With public housing bonds up to 2.54% (AF, Nov. '52, News), and private utility loans reaching 3½%, pressure for a boost was growing.

► FHA's Greene admitted mortgage bankers have made out a good case for an increase in interest on FHA debentures, given when property is foreclosed. He took a dim view of suggestions the term ought to be 10 years instead of 30, however. (Insurance man G. D. Brooks suggested a 20-year, 2¾% debenture.)

► President Laurence F. Lee of the US Chamber of Commerce, also an insurance executive, warned that the private housing and mortgage industry is not telling its story in terms the public understands. Illustrated Lee: "If someone tells you that governmental insistence upon an inflexible and unrealistic rate for FHA and GI mortgages has deprived many people of the opportunity to purchase homes, you know at once what it means. But if the same statement is used in a radio broadcast—and it has been many times—it is utterly outside the experience and knowledge of the multi-million listeners."

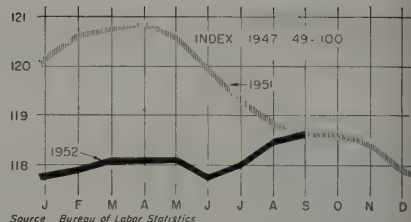
cities (H&H, Oct. '52, News), HHFA offered only bland explanations: "non programmed housing exceeded expectations"; the defense stretch-out delayed the arrival of expected in-migrant workers. Since normal business judgment cannot compensate for government errors in planning, NAHB felt some relief should be provided for builders who had done their part but now cannot find tenants.

One piece of red tape was eliminated: prior allocation of housing units. Now, mortgage papers will suffice. The Oct. 15 defense housing box score:

Programmed .....	94,531 units
Applications .....	346,834 units
Started .....	35,796 units
Completed .....	17,948 units

### A REAL CADILLAC HOUSE

Dallas builder Howdy Howard opened a "holiday house" complete with all furnishings, a well-stocked deep freeze and a Cadillac sedan in the garage. Price: \$69,000. First day brought seven buyers.



**MATERIALS PRICES** advanced minutely, from an index of 118.6 in August, to 118.7 in September. The scant rise resulted from small but numerous increases in metals prices.

## Rent boss urges tax aid for apartment builders

When Congress voted the Office of Rent Stabilization \$11 million for operating expenses this fiscal year, it impounded \$2 million of it on the theory that ORS' work would drop after the Sept. 30 deadline for cities to decide whether they wanted to keep rent control. Last month, Washington figured ORS director James McL. Henderson had doped out a way to justify getting the \$2 million. Before the rental housing federation of the Boston Real Estate Board, he broached two plans he said might help end the housing shortage and thus the need for rent control:

► Extend fast amortization benefits to rental units. This would, said Henderson, "tend to bring large private investors into the rental market."

► An "incentive measure" to prod private capital into slum rehabilitation. Although ORS already allows percentage rent raises for "major capital improvements" on an item by item basis, Henderson said he envisaged a "super-major capital improvement" increase for landlords who repair their slum properties.

## New Jersey builders adopt statewide bonding plan

Disturbed by the slurs of Congressional investigations and anxious to forestall state licensing, eight NAHB chapters constituting the New Jersey Home Builders Association began a statewide "Certified and Bonded Builder" program to reassure the public. All 1,200 members, who account for about 80% of the homebuilding in the state, must obtain association certification and reapply for it annually, or forfeit HBA membership. Henceforth, predicted state president Raymond E. Hanley, "the builder who is not certified and bonded will be looked at askance by the public."

Jersey's was the biggest builder bonding program to date. It provides \$100,000 insurance on each certified builder-member against "wrongful misapplication of earnest money." Not insured: deposits lost by ordinary business failures.



## PEOPLE: Charles L. Clements to head US Savings & Loan League; Producers Council elects Elliott C. Spratt

The US Savings & Loan League nominated vice president **Charles L. Clements**, 58, of Miami Beach, to succeed president **Ben H. Hazen** during its New York convention this



CLEMENTS



CROSBY

month. For vice president, the league nominated **Ralph R. Crosby**, 48, of Providence, R. I. Georgia-born Clements, a one-time Miami Beach councilman, is president of Chase Federal. Crosby is president of the Old Colony Cooperative Bank, Rhode Island's largest savings association.

In Miami's Dade County, where all homebuilders must obtain contractor licenses, officials unraveled a licensing scandal. Suspended until the holders appear for examinations to determine if "they should now or ever be granted certificates" were 43 licenses. About ten covered general contractor homebuilders, the others electrical, plumbing and other homebuilding subcontractors. Center of the scandal, **Howard H. Hill**, had resigned as secretary of the county board of contractor examiners. Two informations charged him with accepting "unauthorized compensation" for helping contractors obtain licenses without taking required examinations. Hill cracked back with a charge that licensing graft was widespread, accused unnamed building and zoning department "higher-ups" of coercing him into issuing unauthorized licenses. **Robert F. Cook**, county planning and zoning department director who succeeded Hill as examination board secretary, called Hill's accusations absolute lies and "an attempt to implicate so many other people that his own guilt will be lost in the shuffle."

In August, **C. Herrick Hammond**, of the Chicago architectural firm of Burnham & Hammond, resigned as supervisor of the Illinois State Architecture and Engineering Division after 23 years in the post. Named acting supervisor by Gov. Adlai Stevenson: **Richard Smykal**, state welfare department executive, former commanding general of the Illinois National Guard, and president of Richard Smykal, Inc., construction firm. Last month, Republican state Representa-

tive **G. William Horsley** sued to oust him. He claimed Smykal has no license to practice architecture in Illinois, charged that in transferring from the welfare department his state salary was improperly continued at \$10,404 instead of reduced to \$8,500.

**Elliott C. Spratt**, 55, secretary of the Hilliard Chemical Co. of St. Joseph, Mo., was upped from first vice president to president of the Producers Council at its annual meeting in St. Louis. He succeeds **A. Naughton Lane**. Spratt, who is also active in NABOM and the National Terrazzo and Mosaic Association, announced the Producers will focus 1953 efforts on giving factual data on the proper uses of new materials to other branches of the construction industry. Other new council officers: **R. S. Hammond**, Johns-Manville Sales Corp., New York, and **William Gillett**, Detroit Steel Products Co., vice presidents; **Fred L. Hauserman**, E. F. Hauserman Co., Cleveland, secretary, and **F. J. Close**, ALCOA, Pittsburgh, treasurer.

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SPRATT



**BUSHELS OF CITATIONS** were showered on Fritz B. Burns, left, Sept. 29 for his extensive private homebuilding around Los Angeles and his leadership in the spectacular fight against public housing there. At a dinner to receive Builder of the Year honors of the L. A. chapter of the Building Contractors of California, chapter president John D. Lusk, right, also presented Burns two bronze civic trophies awarded by utility firms. Other commendations: an official city council resolution in appreciation for his anti-public housing activity, and citations from the county supervisors and the Home Builders Institute.

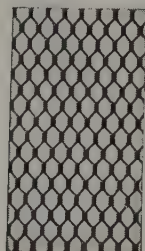
biggest mortgage brokers, discontinued its mortgage department Oct. 31. **J. Maxwell Pringle**, who directed Stern Lauer's FHA operations for 14 years, formed his own mortgage firm with **Richard M. Hurd**, who resigned as vice president of Teachers Insurance & Annuity Association of America. Pringle, Hurd & Co. will take over all of Stern Lauer's mortgage business.

**NAMED:** Vice president **Matthew Francis Judge** of Equitable Trust Co., as the first director of FHA's new Delaware district. The state formerly was in the jurisdiction of FHA's Philadelphia office; **Evan A. Mattison**, executive vice-president of the Bank of America, as president of Budget Finance Plan, Inc., a loan business in Western states now planning to expand nationally; architect **Henry Hill**, as a consultant for Gunnison Homes; **H. C. Berckes**, formerly secretary-manager, as executive vice president of the Southern Pine Association, and **S. P. Deas** as secretary; **Samuel E. Neel**, Washington counsel for MBA for the last six years, as general counsel succeeding **Miller B. Pennell**, of Cleveland, who submitted his resignation about two years ago but continued in service at the request of the board of governors; **R. D. Syer**, 45, as president of Allied Building Credits, Inc., Los Angeles, succeeding **R. A. Peterson**, who joined Transamerica Corp. as a vice president. Syer was affiliated with National City Bank of New York and Bank of America from 1931 to 1942, when he joined War Production Board, for which he became director of rubber machinery and equipment division; became affiliated with ABC in 1948.

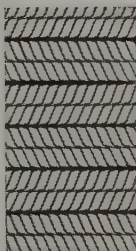
**DIED:** **Leo Raemer**, 62, president of the Illinois National Realty Corp., Sept. 24 in Chicago; **Clement W. Gamble**, president-elect of the National Retail Lumber Dealers Association and executive vice-president of the Boise Payette Lumber Co., Boise, Idaho, Oct. 4 in Seattle; (a new election will be held at the NRLDA annual convention this month in Washington); **Harry C. Peiker**, 61, deputy general manager of the HOLC from 1934 to 1940, and member of the MBA board of governors, Oct. 7 in New York City; **Albert Allen Feinberg**, 59, president of the US Air Conditioning Corp., Minneapolis, Oct. 7 in Minneapolis; **William C. Steagall**, 57, FHA assistant zone commissioner, Oct. 9 at his apartment in Washington; **Robert Seely DeGolyer**, 76, designer of Chicago hotels and apartments and assistant architect of the Pentagon, Oct. 11 in Evanston, Ill.; **F. Eliot Middleton**, 60, former president of the Washington Real Estate Board, Oct. 15 in Fort Lauderdale, Fla.



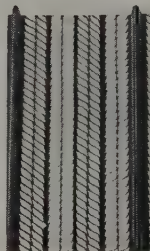
# TRUSCON...a name you can **build** on



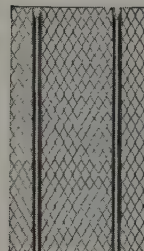
Diamond Lath



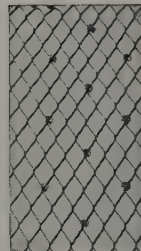
Herringbone  
Doublemesh Lath



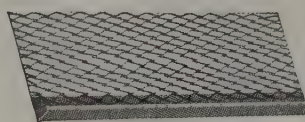
Ribplex Lath



Self Sentering Lath



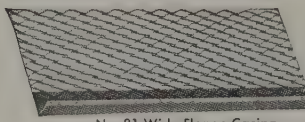
Stucco Mesh



No. 34 1/2 Wide Flange Casing



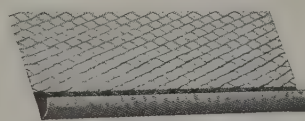
No. 35 1/2 Short Flange Casing



No. 81 Wide Flange Casing



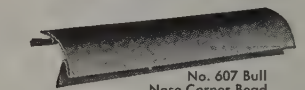
No. 31 Short Flange Casing



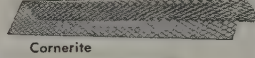
No. 72 Wide Flange Casing



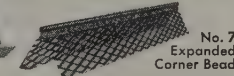
No. 36 Short Flange Casing



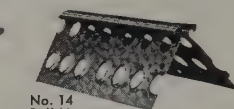
No. 607 Bull  
Nose Corner Bead



Cornerite



No. 7  
Expanded  
Corner Bead



No. 14  
Bull Nose  
Corner Bead



No. 8 Rib Steel Corner Bead



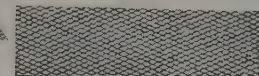
No. 15 1/2 Scalloped  
Edge Corner Bead



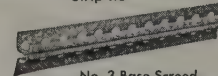
No. 12  
Wide Flange Corner Bead



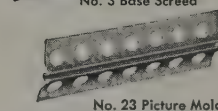
No. 604 Bull Nose  
Corner Bead



Strip-It



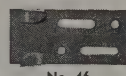
No. 3 Base Screed



No. 23 Picture Mold



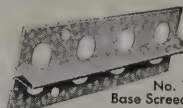
No. 49  
Curved Base Screed



No. 46  
Corner Bead Clip



No. 45  
Casing  
Clip



No. 1  
Base Screed



No. 700  
Partition  
Cap



Tie Wire



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## MODERN MORTGAGES

*A monthly report on important developments in the modernization of mortgage credit with particular emphasis on the expanding potential of the package mortgage, the open-end mortgage and the expandable mortgage*



*This month Warren Hill points out advantages and suggests ways to handle open-end mortgages*

### How open-end mortgages can save both lender and borrower money and trouble

*By Warren Hill, assistant executive vice president of the, New Jersey Savings & Loan League*

**Question—**Is an open-end mortgage profitable for the lender?

**Answer—**It is the most profitable kind of loan a lender can make, judging by the experience of our savings and loan associations in New Jersey, many of which now have many years' experience with the open-end mortgage.

That experience shows there are six reasons why the additional advance is so profitable:

**1.** It sweetens up the partly paid-off loan by making it large enough to bring the servicing cost in balance with the interest income. Servicing a \$2,000 balance is apt to cost as much as servicing a \$6,000 balance, but the income is only a third as big.

**2.** It involves no acquisition cost at all. Every businessman, no matter what his field, knows that repeat business is more profitable than new business, because it involves so much less selling expense and so much less credit investigation. A savings association is familiar with the credit history of every borrower on its books and knows without further checking which ones are desirable risks for additional advances.

**3.** It is a safeguard against portfolio raiding. A borrower who knows his savings and loan association stands ready to make additional advances under the open-end clause, is less apt to be tempted if a competitor tries to beguile him with a more attractive offer in a period of easy mortgage money.

**4.** The open-end mortgage makes it unnecessary for the homeowner to overload himself with short-term, high-rate debt to pay for his improvements—short-term debt which might impair his ability to meet the regular payments on his first mortgage. There are many unhappy instances of this type in the files of the savings associations. If the borrower had gotten the money from his original lender instead, he could have saved both parties both trouble and money.

**5.** The open-end mortgage often enables the homeowner to buy better materials and equipment than he could afford to buy on short-term credit. Inferior materials would either run him into excessive maintenance costs or make him let his property deteriorate, either of which is bad for the lender.

**6.** The ability to promise additional advances as needed under the open-end clause is a most attractive selling point that gives any savings association which advertises it a competitive edge and makes savers out of mortgagors. This competitive advantage is particularly strong against FHA loans, since FHA has not yet joined VA in approving the open-end procedure.

For all these reasons builders and material suppliers will find almost every savings and loan association in New Jersey—and in most other states, I am sure—glad to co-operate with them in financing home modernization or expansion under the open-end mortgage. But they should not expect the savings associations to take the first step. There is no use expecting a financial institution to be aggressive about selling its lending facilities. The first move is up to the builder and material supplier.

If dealers will approach the local savings and loan manager they can almost always work out an attractive, well-rounded, long-term financial program. They should let the lender worry about the lending techniques and then develop jointly the method for finding homeowners who would like to improve their property if only they could find the money on attractive terms.





**"See what's waiting for me . . .**

*happy family—  
happy home!"*

This scene is as American as apple pie . . . a healthy, happy family . . . an easy-to-live-in home, with a kitchen finished in beautiful, lifetime Mosaic Tile.

Mosaic Tile does so much for the cheery, efficient home of today. In kitchen, bath — and in other important areas, indoors and out — no material adds such beauty, assures such easy maintenance, wears so long — or gives so much for the money!

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*See our catalog in Sweet's*

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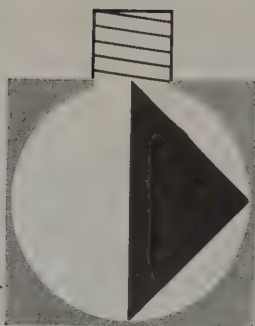
Hartford, Connecticut



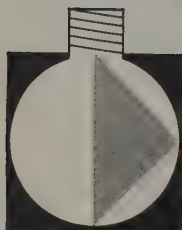
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*as fundamental as  
built-in cabinetwork...*



*A good plan  
is always better  
when it includes  
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Chances are, drawings and specifications for the houses you plan are complete right down to the built-in cabinetwork. But do they make provisions for built-in telephone facilities and concealed telephone wiring?

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**BELL TELEPHONE SYSTEM**





# Always starting a building boom!

— these millions of readers with **BUY ON THEIR MINDS!**

**D**ID YOU know that 7 out of 10 families who are building new homes read Better Homes & Gardens? But that's not all. The 3½-million families who read BH&G undertake nearly 1¼-million home-improvement jobs a year.

So BH&G families are always in the market for everything in building supplies!

It's all because BH&G fills every issue with practical ideas for improving the home, making home life more enjoyable.

No wonder BH&G readers are building-minded and BUY-minded.

## BH&G **BUY**OLOGICAL BRIEFS

- *A MAJOR WOOD-SPECIALTY manufacturer's representative, within weeks of the BH&G ad, followed up 17 inquiries in Milwaukee alone and closed 17 sales!*
- *OPERATIVE BUILDERS say that their customers mention BH&G more than any other magazine.*
- *BUILDING SUPPLY DEALERS (7-to-1) rate BH&G as greatest selling aid of all major magazines!*

MEREDITH PUBLISHING COMPANY, Des Moines, Iowa

A black and white illustration of a man and a woman. The man, on the right, is shown in profile, looking towards the left. He has a halo above his head with the word "BUY" written inside. The woman, on the left, is looking up at the man with a surprised expression. She also has a halo above her head with the word "BUY" written inside. She is holding a copy of the magazine "Better Homes and Gardens". The magazine cover features the title "Better Homes and Gardens" in large, stylized letters. Below the title, it says "Serving more than 3,500,000 families" and "November 1952". A banner at the bottom of the magazine cover reads "Serving more than 3½-million families—screened for the **BUY ON THEIR MINDS!**"





## solve these five design problems with RA-TOX FOLDING DOORS

### PROBLEM NO. 1

Find a low cost, simple way to eliminate moisture condensation in wardrobes and clothes closets . . . often found in homes with closets on outside walls or in homes with slab floors.

**SOLUTION:** Ra-Tox Folding Doors permit necessary circulation of air for solving the problem. Woven slat construction, with  $\frac{1}{8}$ " space between each slat plus  $\frac{3}{4}$ " floor clearance provides passage for air.

### PROBLEM NO. 2

Reduce cost of partition walls without sacrificing appearance or utility.

**SOLUTION:** For clothes closets, wardrobes, linen closets . . . eliminate the entire partition wall, and replace with Ra-Tox Folding Door hung from wall to wall and ceiling to floor.

### PROBLEM NO. 3

Reduce the cost of interior door and door frame construction and finishing.

**SOLUTION:** Ra-Tox Folding Doors are supplied complete, with overhead track, all hanging hardware, and are finish painted in choice of colors or natural wood. May be installed directly to plastered opening. Eliminates costlier standard door and trim installation and finish.

### PROBLEM NO. 4

Use a door that requires no adjustments or refitting after installation.

**SOLUTION:** Ra-Tox Folding Doors never need adjustment or refitting. Door hangs clear of floor by  $\frac{3}{4}$ ". Track is overhead . . . no floor track to jam. Door is quality built. In break-down test, door was opened and closed over 100,000 times without structural failure.

### PROBLEM NO. 5

Make room space more useful . . . eliminate all possible wasted areas.

**SOLUTION:** Ra-Tox Doors fold to side . . . save wall and floor area wasted by standard swing type doors.

Ra-Tox Folding Doors are nationally distributed through retail lumber and building material dealers. Write for name of nearest dealer and Bulletin 406. Your inquiry is invited.

**THE hough shade CORPORATION** RA-TOX DIVISION  
1021 JACKSON STREET • JANESVILLE, WISCONSIN

SEE FILE 16cHo, SWEETS ARCHITECTURAL 1952

RA-TOX  
FOLDING  
DOORS  
FOR



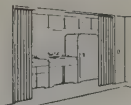
WARDROBES AND  
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BED CLOSURES



COMMERCIAL USES  
SUCH AS RESTAURANT  
ROOM DIVIDERS

## LETTERS—Code Babel

In response to its September editorial "Does code Babel add \$1,000 to small house building cost?"—HOUSE & HOME has received letters from 28 states. In general reaction were two to one in agreement that the local building code is often the most expensive thing about today's house.—ED.

Sirs:

Your statement that "all standard codes make provisions for climatic conditions" may be correct. However, all such codes do not take into consideration conditions which prevail in very large cities. The City of New York is continually amending its building code to keep abreast of new materials and methods of construction, to lessen requirements when they have been judged too severe and in general, to effect such economies of construction as will not reduce safety. For instance, fire resistive requirements for exterior walls were substantially reduced a few years back with substantial economies resulting.

We agree there is always room for improvement. Our 300 and more amendments to the New York City Building Code indicate clearly that we are not standing pat.

BERNARD J. GILLROY, *commissioner*  
Department of Housing and Building  
City of New York, N. Y.

Sirs:

In 1950 Atlanta compiled its new Building Code based primarily on the provisions of the 1949 National Building Code. At that time the code committee reviewed standard codes available and adjustments in the national code were made in order to suit the needs of Atlanta. Wind loads, roof loads and the like which were at variance with information on record were changed to suit our location.

W. R. WOFFORD  
*Inspector of buildings*  
City of Atlanta, Ga.

Sirs:

I'm glad you are still creating a commotion on the subject of codes, even though you must feel by now like that long lost voice crying in the wilderness.

(Mrs.) MARY DAVIS GILLIES  
*Houses editor*  
McCall's Magazine  
New York, N. Y.

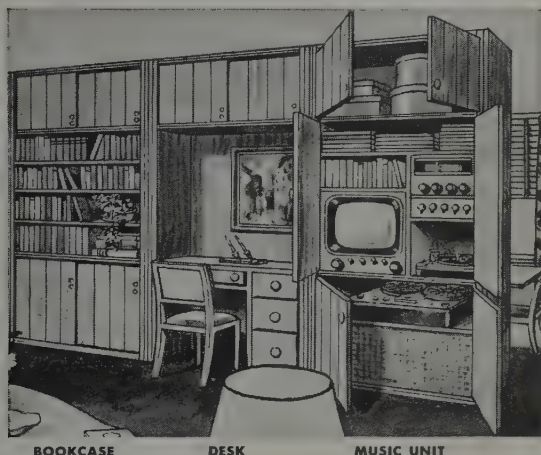
Sirs:

The City of Los Angeles has done exactly what the editorial suggests. It has made full use of uniform standards. It is believed that the editorial overemphasizes the value of standardization and mass-produced standard parts. This mass production is one thing when used in the manufacture of appliances and equipment which are apart from the

continued on page 66



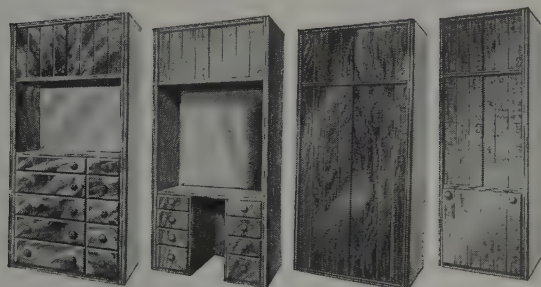
another **HOMASOTE FIRST**  
—designed to reduce the cost of building



BOOKCASE      DESK      MUSIC UNIT

*For every room in the house*

THERE ARE HANDSOME, SPACE-SAVING  
**NOVA** PRECISION-BUILT WALL UNITS



DRESSER      VANITY      WARDROBE      LINEN CABINET

Nova Wall Units may be combined as desired. Or—each can be used individually, as a finished piece of furniture. In addition to the units pictured above, there are spacious bath cabinets, storage wall units, hospital wardrobes. With 2'2" maximum depth, they save space over conventional storage furniture. Used in new construction, they can save as much as 5' in total house length.

Nova Wall Units can replace walls—with units back to back

or alternately serving different rooms. Inner walls and backs are insulating, sound-deadening and mildew-proof. Fronts are of finest plywood or lumber—from birch and gum to imported mahogany. These units are supplied unfinished—or with prime coat, paint, stain or furniture finish.

**Free planning service.** We offer 48-hour service to any architect—or builder—providing detailed specifications for any given area in either new construction or modernization.

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A wholly owned subsidiary of Homasote Company—manufacturers of the oldest and strongest insulating building board; wood-textured and striated panels.



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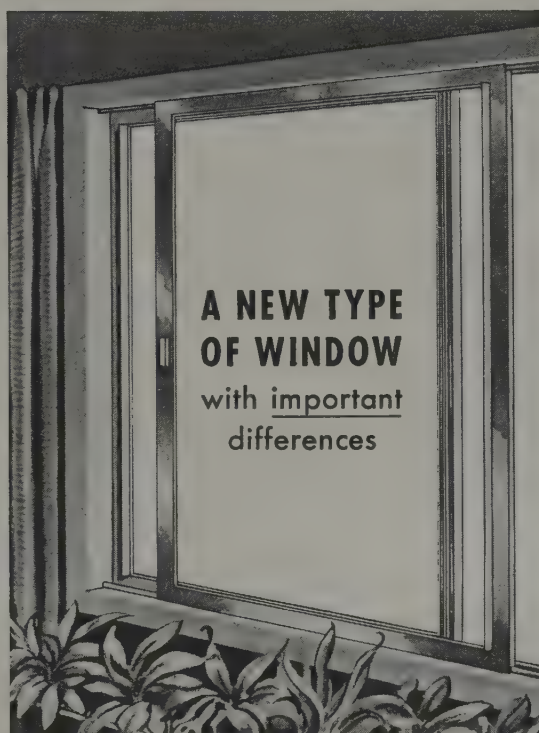
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OF WINDOW**  
with important  
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### The NOVA-VITA

**Horizontal-Sliding Window**  
for every room in the house



This window has no sash balances or counterweights, no operating cranks, no projecting hinges. And it will never require puttying!

In this window the panes—framed in satin-finish aluminum sash—ride on *nylon shoes* over *fiberglas tracks*. The window locks tight and is tamper-proof from the outside. Each pane is removable—for maximum ventilation in warm weather—for easy cleaning the year around. An aluminum tension screen—

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In the few words above, you have the facts which mean sound investment value, operation that gets better each year, minimum maintenance costs—*true economy!* Add to these, ease of installation. Each window comes—complete in its wood frame—in its own carton, with pane and rough opening sizes clearly marked on the outside of the carton—for each type of wood, plaster or masonry construction.

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**A WINDOW WALL OF TWINDOW**—Pittsburgh's window with built-in insulation—with fast-growing-in-popularity sliding doors, like this one, also glazed with Twindow, adds a lot of glamour to the modern home. Twindow has nearly twice the insulating value of conventional windows. It's made up of two panes of Polished Plate Glass, with a sealed-in air space between. That means excellent vision, elimination of downdrafts, and under normal conditions, less tendency for condensation to form. And for additional safeguard against solar heat and glare, Solex-Twindow is ideal. In these units, the outer pane is green tint Solex, the inner Plate Glass and the entire unit is enclosed in a stainless steel frame—as shown by the cut-away view here. Architect: Frederic Barinbrock, Santa Monica, California.





# Pittsburgh Glass can help you!



CARRARA bespeaks quality, beauty, luxury. It's a permanent material; once installed it lasts indefinitely. To any home you build or remodel, it brings an extra measure of value that's easy to see. Carrara Glass is unexcelled for the walls of bathrooms, powder rooms and kitchens. Its depth of color and sparkle appeal to everyone. And it's extremely easy to keep clean; a damp cloth is all that's required. Carrara is available in ten attractive colors to satisfy any decorative need.



A little extra glass means a lot of extra charm and buy-appeal, regardless of the style or price range of the homes you build or remodel.



FULL-LENGTH Pittsburgh Door Mirrors are a must in any home. People demand them. They make your homes more appealing to prospective buyers. And in modernization work, they add to your reputation as a fine builder. Pittsburgh Door Mirrors are really *full length*. They're 68 inches high—16, 18, 20, 22, or 24 inches wide. Easily installed, these sizes fit more than 90% of all millwork interior doors.

IN BEDROOM, living room, dining room, den, bathroom—you can't beat a clear Plate Glass mirror to give life, zest and greater expansiveness. That's especially so when you install a *Pittsburgh* wall mirror. It doubles enjoyment by reflecting all the color, beauty and movement in the room. It has the tendency to widen or lengthen a room, as desired. And the new Pittsburgh Mantel Mirror Brackets, which come packed with each custom-made mirror you order, cut on-the-job labor, make installation easy. Find out about these ingenious brackets from your local Pittsburgh dealer.

Build it better with **Pittsburgh Glass**

Your Sweet's Catalog File contains detailed information on all Pittsburgh Plate Glass Company products . . . Sections 7a, 13e, 15, 16b, 21.



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# EXTRA *that makes a house* **EASIER TO SELL!**

**IT'S A PACKAGE!** Everything needed arrives on the job as a complete unit. Including automatic ceiling shutter, from \$154.93\*, retail.

**What prospective home owner** doesn't crave *built-in summer comfort*? The lady of the house looks to cooler, more pleasant days. The man grins at the thought of solid sleeping comfort on hot summer nights. Nothing you can offer gives more lasting pleasure. Nothing does more to make the sale. In terms of the selling influence it wields, the cost of an R & M "Package" Attic Fan is low indeed.

**Easy installation.** R & M "Package" Attic Fans with certified air deliveries of 4750 and 6800 CFM cut installation costs to the bone. Fan simply sets over roughly framed opening, no finishing needed. Rubber cushion seals fan frame to ceiling opening. Ceiling trim is part of complete automatic

shutter assembly. Also available in easy-to-install sizes up to 16,000 CFM.

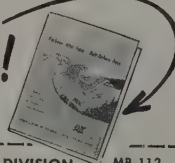
**Ideal for low attics** and all standard hallways. Perfect for "moderns" with limited attic clearance. Quiet, too. Moving parts are rubber-mounted. Factory-lubricated, sealed ball bearings on fan and motor. Fan guaranteed five years; motor and shutter, one year.

**An informative, fact-filled booklet** on R & M Attic Fans is yours for the asking. Send the coupon for your copy now.



Consult Sweet's Architectural File for complete Robbins & Myers cooling and ventilating data.

**IT'S FREE!**



## ROBBINS & MYERS

**"Package" attic fans**

Atlanta, Boston, Chicago, Houston, Kansas City, Los Angeles, Minneapolis, New Orleans, New York, Orlando, Philadelphia, San Francisco, Springfield, Ohio

\*Price subject to change without notice

ROBBINS & MYERS, INC., FAN DIVISION MB-112  
387 So. Front St., Memphis 2, Tennessee  
Please send me your booklet—"Robbins & Myers Package Attic Fans, Belt-Driven Fans." A.I.A. File No. 30-D-1.

Name .....  
Address .....  
City ..... Zone ..... State .....

## LETTERS—Code Babel cont'd.

house itself, but it is a far different thing when applied to the actual structure.

You imply that the federal government should step in and apply controls. If this is the way to reduce costs, it will be quite a change from past experience.

G. E. MORRIS  
Superintendent of building  
City of Los Angeles, Calif.

Sirs:

I agree with almost everything you say. Our present building code is some 25 years old and, of course, out of date. We have recently appointed a committee to recommend doing just what you state in your editorial, that is to eliminate senseless variations from sound national standards.

AUSTIN P. HANCOCK, city manager  
City of Abilene, Tex.

Sirs:

That a small house could be enlarged by 20% or that there could be provided wall-to-wall carpeting, or more insulation and double glazing, or that an extra bathroom could be provided if "useless variances" in code regulations are omitted is doubtful. There have been differences of opinion on some of our code regulations but even if such differences should be resolved, I doubt very much if any saving could be effected beyond a few dollars.

No code written or which may be written will be a perfect document. There are bound to be differences of opinion as exemplified in the four recognized building codes: NRFU, PCBOCC, BOCA and SBCC.

I might point out that there are no general uniform standards in the automobile industry, which operates on a more extravagant scale than the construction industry. There are more than 18 manufacturers who produce automobiles, no two makes of which are alike. Automobile parts vary so much that a car owner is more or less forced to procure automobile parts from the dealer or garage selling his particular make of car.

To date we have approved 21 types of prefabricated homes, no two identical. The standardization of automobiles or homes into one model would surely make this a drab and monotonous world.

LEON M. GURDA  
Inspector of buildings  
Milwaukee, Wis.

Sirs:

I am a great believer in standardization and the performance-type code enacted by the City of Pittsburgh in 1947 goes a long way in this direction. Our present code was the result of intensive study and action. In 33 different instances, the code refers to standards set up by recognized national authorities.

Our code allows us to use the very latest practices and materials as soon as these national authorities accept them.

continued on page 70





# Washable interior walls

*help to make Gunnison  
a lot of home for a little money*

Housekeeping becomes a pleasure in a Gunnison Home and a lot of the credit goes to Gunnison's wonderful Mellow-Tone inside walls. It's a finish that stays clean longer . . . can be wiped clean quickly and easily.

Finger daubs, smudges, even crayon marks, come off easily with a little soap and water or a mild detergent. It's a feature that every housewife will appreciate . . . and *want*.

Every member of the family will like the appearance of Mellow-Tone walls. The finish preserves the natural beauty of carefully selected wood. As a result, Mellow-Tone walls blend with any decorating scheme, either modern or traditional.

Attractive, easy-to-clean Mellow-Tone walls have special appeal to young people with small children—the largest group of low-priced home buyers.

The Mellow-Tone interior walls are just one of many luxury features that combine to make the Gunnison Home a *lot of home for a little money*.

**GUNNISON HOMES, INC., NEW ALBANY, IND.**



## Gunnison Homes

*A lot of home for a little money*



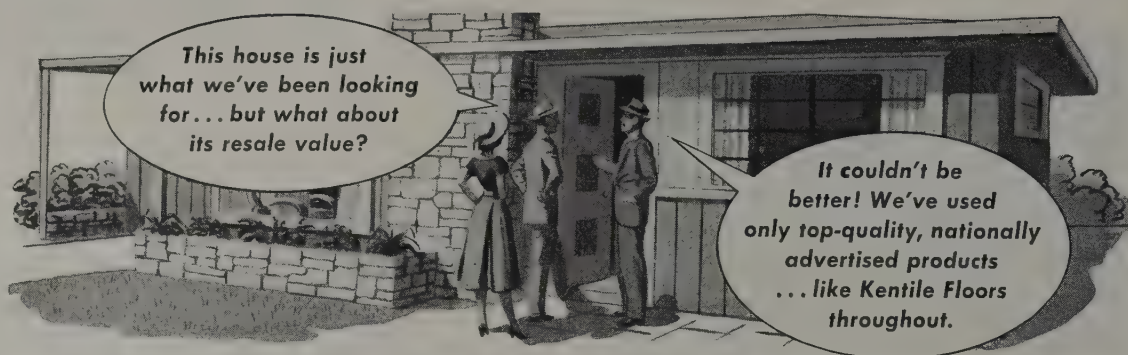
### *Other outstanding features of Gunnison Homes*

- New Perimeter heating system
- Mor-Sun automatic gas or oil furnaces
- Beautiful exteriors
- Flush panel doors
- American Kitchens
- Fenestra steel windows
- Thermo-Pane window walls
- Permaglas water heaters
- Ceiling-to-floor sliding closet doors

"Gunnison"—trade-mark  
of Gunnison Homes, Inc.

SUBSIDIARY OF **UNITED STATES STEEL CORPORATION**





Colorful Kentile Asphalt Tile retains its beauty for years of the hardest wear...requires only minimum maintenance effort and expense

## Kentile Floors add extra years of value to small homes construction

PROSPECTS know that the day may come when they'll want to sell their home. That's why they insist on the added durability of Kentile Floors...the colorful, modern beauty that will last under the most rigorous use yet still retain all of its famous sales-appeal!

And, architects and builders know that the initial low cost of Kentile Floors...plus the speedier, more economical installation...provides them with a practical means of keeping costs down—quality up!

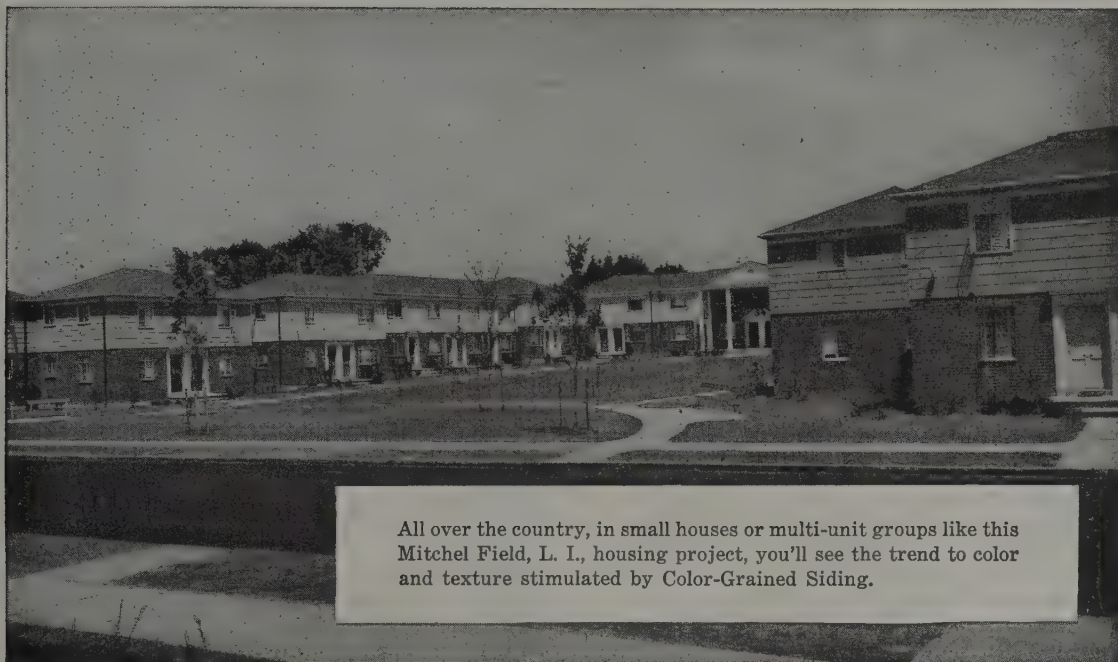
Kentile can be installed over any smooth, firm interior surface...even below grade over concrete in contact with the earth. Once down, Kentile's sparkling colors remain part of the floor for its long life because they can't wear off...resist dirt, stain and wear... stay fresh and appealing with only mild soap and water...an occasional no-rub waxing. For full information, contact your local Kentile Flooring Contractor...or any of the offices listed below.

**KENTILE • SPECIAL (Greaseproof) KENTILE • KENRUBBER • KENCORK**



KENTILE, INC., 58 Second Avenue, Brooklyn 15, New York • 350 Fifth Avenue, New York 1, N. Y. • 705 Architects Building, 17th and Sansom Streets, Philadelphia 3, Pennsylvania • 1211 NBC Building, Cleveland 14, Ohio • 900 Peachtree Street N.E., Atlanta 5, Georgia • 2020 Walnut Street, Kansas City 8, Missouri • 4532 South Kolin Avenue, Chicago 32, Illinois • 1113 Vine Street, Houston 1, Texas • 4501 Santa Fe Avenue, Los Angeles 58, California • 452 Statler Building, Boston 16, Massachusetts





All over the country, in small houses or multi-unit groups like this Mitchel Field, L. I., housing project, you'll see the trend to color and texture stimulated by Color-Grained Siding.

## *Plus Sales Feature for* **Color-Grained Siding**

### **Exclusive DUROC® Finish Gives Home Owners Greater Value**

Style, beauty, color and texture has made Ruberoid's Color-Grained Siding\* a smash hit with home owners and builders after just one year on the market. Now, Ruberoid has added a new improvement to make Color-Grained Siding even more attractive. It's *Duroc*, the exclusive Ruberoid surfacing. *Duroc* adds a lustrous finish that brings out the full beauty of the warm, distinctive colors and highlights the rich texture. It provides an armor-hard protective coating that resists dirt, stain, wear and weather. That's why home owners get greater value, greater economy as well as up-to-date style and beauty when they buy homes sided with Ruberoid's Color-Grained Siding.

### **Cuts Your Siding Costs**

Color-Grained Siding can reduce your siding costs as much as \$650 on an average size home. Compare the prices in your area with the cost of ordinary wood siding. You'll be amazed. And you can make a big saving without "cutting corners", because Color-Grained Siding looks like the quality product it is. Full-page, full-color advertising appearing in magazines like the Saturday Evening Post and Good Housekeeping tell your customers the story of beauty, economy, style and color that has made Color-Grained Siding the top favorite of modern siding materials. See your Ruberoid dealer for complete information or Sweet's Catalog, Builder's File 8A/RU. The Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.

\*Patent Nos. 2307733, 2307734, others pending

# **The RUBEROID Co.**

## **ASPHALT AND ASBESTOS BUILDING MATERIALS**



# Sell them MORE HOUSE... BETTER LIVING!



## PREFABRICATION S-T-R-E-T-C-H-E-S building budgets

If you're faced with growing competition and want to build comfortable, quality homes despite higher costs—look to PREFABRICATION. Here, new sales records are being set because prefabrication's modern methods result in greater economies.

From thrift model to luxury home, builders can erect prefabricated houses faster, at lower cost and with fewer headaches.

Make 1953 a profitable year. Join the growing number of builders enjoying the advantages of prefabrication. Write for FREE booklet, "Build Better, Build Sooner."

✓ BUILD SOONER

✓ COMPLETE QUICKER

✓ SELL FASTER



**PREFABRICATED HOME  
MANUFACTURERS' INSTITUTE**

908 20th St. N.W.

Washington 6, D.C.

### LETTERS—Code Babel cont'd.

Since the new code was adopted, 98% of the complaints are from builders who are definitely of the chiseler type, trying to skimp on construction.

J. CLYDE TAYLOR, *superintendent*  
Bureau of Building Inspection  
City of Pittsburgh, Pa.

Sirs:

The only real bit of meat in which to sink one's teeth in the entire article regards the use of 2 x 4's 16" o.c. where 2 x 4's 24" o.c. would carry the loads imposed for ordinary construction. However, with the ever increasing number of grades of dimension lumber now acceptable through lowered standards I, for one, would rather pay the \$24 difference for small house construction and place my studding at 16" o.c.

P. M. ROBERTS  
Building inspector  
City of Boise, Idaho

Sirs:

If this editorial can in any way hasten the adoption of uniform standards, such as the Uniform Building Code, it will have done a great service. One important feature is that it makes the specific recommendation that these changes should be made at the local level and that uniform standards should be enforced at the local level.

WALTER ZUETELL  
Superintendent of buildings  
City of Pasadena, Calif.

Sirs:

What kind of journalism is this which makes such sweeping allegations and submits so little evidence? You do not answer the question in your title, yet you assume your viewpoint to be truth itself.

You state: "The truth is most local codes are rackets." Where is your proof? Our local (underpaid) building inspector could only laugh at that one. In this city there has been no evidence, nor suspicion, of racketeering.

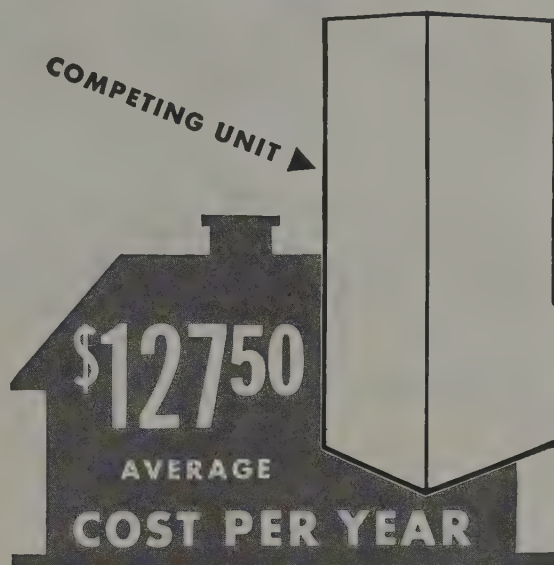
You state: "The high cost of code-enforced waste is the biggest single reason homebuilders find it hard to get their prices down." Where is your proof? What percentage of unnecessary building cost is due to the high cost of trade-union labor with feather-bedding policies? What percentage is due to the dealer-middle-man system of building materials distribution? What percentage is due to the small size of production units because most houses are custom-made?

You dismiss interest rates with a nod, yet the interest on an average loan will constitute from 25% to 35% of total cost of the dwelling, which makes your \$1,000 relatively unimportant. You forget also that the cost of preparing the site (including water, sewer, streets, etc.) is fixed regardless of house cost.

continued on page 74



# COMPARISON TEST PROVES Kaustline SAVES HEATING DOLLARS!



**SIDE BY SIDE** records were kept by Mr. Lester A. Sharrier of the Anchor Sheet Metal Works of Crawford, N. J., during a comparison test between a number of Kaustline Oil Fired Furnaces and the nationally advertised units of other furnace manufacturers.

The test, made in the same tract of homes over a period of two years, showed an

oil consumption cost averaging between \$90.00 and \$100.00 a year on the Kaustline units as compared with \$120.00 to \$135.00 for the other equipment.

Mr. Sharrier also says "... we have had less service trouble with your units than any of the others we have ever installed ... and we believe your burner and furnace to be one of the finest on the market."

Write for full information to Dept. H-11



**Kaustline**  
COMPANY, INC.  
PERRY, NEW YORK

## FOR SAVINGS

Modulated Warm Air Furnaces from 65,000 to 270,000 B.T.U.  
Septic Tanks ... Pressure Vessels ... Oil and Gasoline Storage  
Tanks ... Truck Tanks ... Custom Built Fabricated Equipment

### Living-dining room in heating zone 3

A separate thermostat system in this spacious area compensates for solar radiation when the sun is bright. And on blustery days it compensates, too, for cold winds from the northeast, and for extra heat from the fireplace.



HONEYWELL 

ZONE	CONTROL
------	---------

 CREATES

# The Kind Of Comfort Your Clients Have Always Wished They Had

*Now you can give them the exact temperature they want—in every room—with Honeywell Zone Control*



The striking new home of Mr. and Mrs. E. L. Schaible in Lafayette, Indiana, is a fine example of the modern convenience and functionality offered by the tri-level house.

And it is a fine example, too, of the superior kind of comfortable warmth Honeywell Zone Control provides—in every part of the house—all winter long.

When developing the plans for the home, Mr. Schaible, an architect by profession, realized no ordinary temperature control system would do.

"Mrs. Schaible and I wanted a house that was really comfortable, in every room, in any kind of winter weather," he says. "That's why we chose Honeywell Zone Control, and divided the house into three heat control zones—living, sleeping and recreational."

Today, with a separate Honeywell thermostat system in each of these zones, Mr. and Mrs. Schaible and their guests enjoy the right degree of comfortable warmth, in all parts of the house, no matter how changeable the winter weather.

So why don't you specify Honeywell Zone Control for the homes you design? When you do, you'll be giving your clients the kind of comfort they've always wished they had.

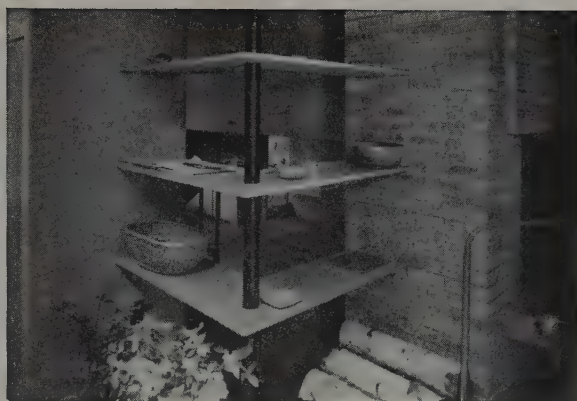
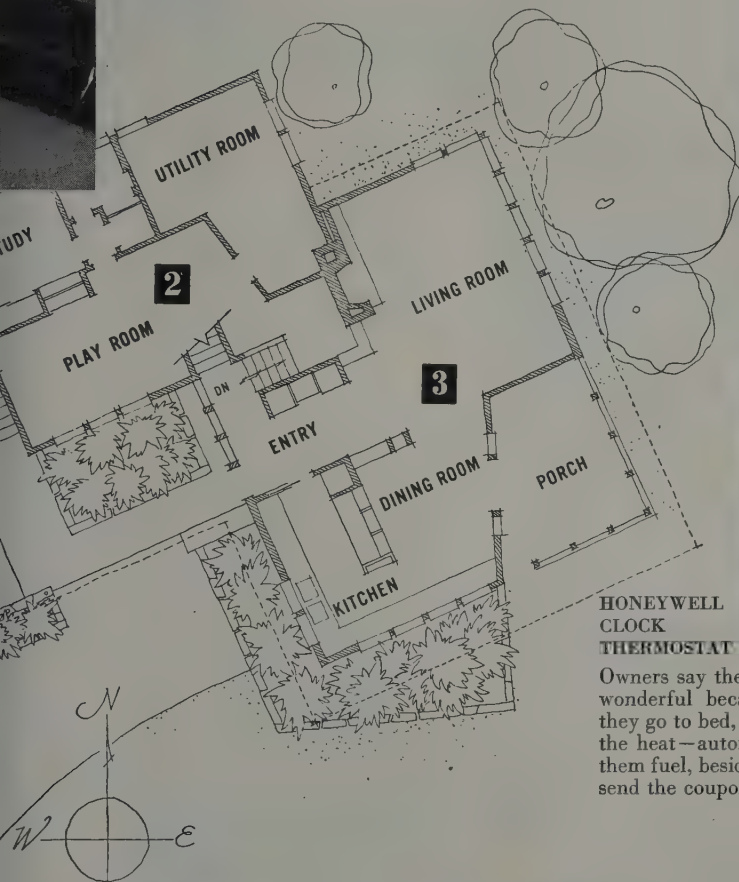


upper level plan





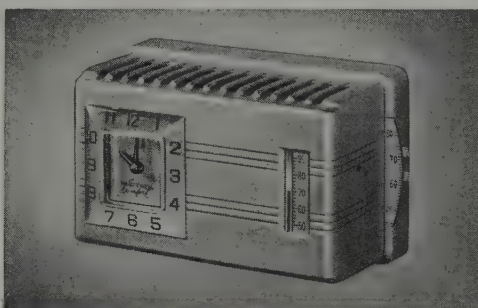
The three heating zones correspond to the three "levels" of the home. The upper level—the sleeping area—is in *heating zone 1*. Those are bedroom windows upstairs, to the left of the chimney. The lower level, which includes the play room, is in *heating zone 2*. That's the play room window just to the right of the car port. The living-dining area—*heating zone 3*—is at the far right.



Comfort demands of the lower level, which includes the play room and study, are easily met by the separate thermostat system in *heating zone 2*. That's the area you see as you look through the shelves in the above photograph. Thus, Honeywell Zone Control keeps the temperature just right, all winter long, in every part of the house.



All bedrooms in the Schaible home are located on the upper level—in *heating zone 1*. In this zone, a Honeywell electronic clock thermostat automatically turns temperatures *down* at night, *up* in the morning.



HONEYWELL  
CLOCK  
THERMOSTAT

Owners say the Honeywell electric or electronic clock thermostat is wonderful because it turns *down* the heat—automatically—when they go to bed, and gives them a nice cool room to sleep in; turns *up* the heat—automatically—before they get up in the morning. Saves them fuel, besides! For full facts, call your local Honeywell office. Or send the coupon below.

MINNEAPOLIS-HONEYWELL REGULATOR CO.  
Dept. HH-11-241, Minneapolis 8, Minnesota  
Gentlemen: Please send me additional information on Honeywell Zone Control and the Honeywell Clock Thermostat.

Name.....

Firm Name.....

Address.....

City.....Zone.....State.....

MINNEAPOLIS  
**Honeywell**



*First in Controls*

# You Run No Risk of Bleeding or Raised Grain with



## ARKANSAS SOFT PINE Satin-like Interior Trim



"This soft texture absorbs paint evenly and holds it, there's no bleeding through or discoloration!"



Checking for correct moisture content.



1. Arkansas Soft Pine contains no pitch to bleed through and discolor paint, enamel or stain finish.
2. It is seasoned to correct moisture content (6 to 8 per cent) in automatically controlled dry kilns.
3. This process shrinks the wood *before* it is machined. Thus "pull" between summer and winter ring growth, which is the cause of raised grain, is completed while the wood is in the rough. Seasoned material is then machined to patterns of stabilized size and satin-like surface.
4. Priming coats are evenly absorbed, becoming integral with the wood's fiber. Final coats thus are applied to uniform surface, immune to bleeding and raised grain, to provide finished woodwork of lasting beauty. These are dependable qualities in Arkansas Soft Pine which answer your question, "How will this trim look five years from now, or 25?"

Sold by retail lumber dealers and planing mills east of the Rockies. Complete information, including grades to specify, stress tables, trim patterns, painting and finishing instructions are contained in this free Handbook for Builders. Write for your copy.

### FRAMING LUMBER, TOO—

...in dimension, sheathing, siding, jambs and outside trim. The soft texture and paint-holding qualities of Arkansas Soft Pine insure your workmanship and reputation as a builder of better homes. Look for the trade-mark at your lumber dealers—stamped on all genuine Arkansas Soft Pine.

ARKANSAS  
*Soft Pine*  
BUREAU

"How will this trim look in 25 years?"  
As you see it here.

1152 Boyle Building

LITTLE ROCK, ARKANSAS



### LETTERS—Code Babel *cont'd.*

What hurts us most is that you imply that local officials are at fault; yet most local codes are adopted from national standards. Our pattern was set by the National Board of Fire Underwriters, whose terms we must meet in order to keep our insurance rates down.

Write to them before you lay it on us again will you?

H. W. STEVENS  
*Director of planning  
City of Raleigh, N. C.*

Yet Raleigh is only now rewriting a restrictive, out-dated plumbing code.—Ed.

Sirs:

The official position of the City and County of Denver and its building department is in perfect accord with your editorial.

GEORGE R. McCORMACK  
*Chief building inspector  
City and County of Denver  
Denver 2, Col.*

Sirs:

Your editorial is exact, to the point, and not exaggerated in any way.

DORSEY E. WHITE  
*Building official  
The City of El Paso, Tex.*

Sirs:

The building code of the City of Elizabeth pertains to the building itself and there are no local laws to increase the cost of building as this code is 100% according to the national standards.

WALTER F. FROMM  
*Superintendent of buildings  
City of Elizabeth, N. J.*

Sirs:

All our local building costs closely follow the lines you condemn. I feel that our building restrictions add considerably to the cost of home construction. I cannot honestly say that \$1,000 is the correct figure but it is close to being correct.

Perhaps you should carry the crusade further and go after the manufacturers of household products who are forcing their lines upon gullible building inspectors.

Unfortunately, in most city governments, elected officials who pass upon building codes are not familiar with construction and are prone to take the word of the most vocal pressure group present.

GORDON G. DUNN, *mayor  
City of Fresno  
Fresno 1, Calif.*

Sirs:

The City of Oakland, and several hundred others on the Pacific Coast, have banded together and are using a uniform code in an attempt to eliminate various inconsistencies

*continued on page 78*



# Delco-Heat helps sell Oklahoma homes

*Delco Conditionairs specified exclusively by Lawton builders*

Here's what Andy Crosby, Vice-President and Sales Promotion Director of The Lewis Construction Co., Inc., Lawton, Oklahoma, has to say about Delco-Heat. "Our sales experience indicates Delco-Heat automatic home-heating equipment offers real sales advantages in the homes we build. We are so favorably impressed that we are installing Delco-Heat in all our new homes." Hewett Refrigeration Co. is the Delco-Heat Distributor in Lawton, Okla.

Tom Lewis, Jr. (left), Andy Crosby (right)



"The home pictured here is typical of the ranch-type, two- and three-bedroom homes we built in 1951," writes Tom Lewis, Jr., President of The Lewis Construction Co., Inc. "In this particular development of 75 homes we used Delco-Heat Gas-Fired Conditionairs exclusively."



Gas-fired Conditionairs



Conversion Gas Burners



Oil-fired Conditionairs



Gas- and Oil-fired Water Heaters



Electric Water Systems



Conversion Oil Burners

**GENERAL MOTORS  
DELCO-HEAT**

Eye-appealing cabinet styling... competitive prices... General Motors dependability... consumer acceptance... a complete range of burners, warm air furnaces and boilers to meet every builder's needs—are just a few of the reasons why so many prominent builders are turning to General Motors Delco-Heat.

Home owner satisfaction proved in thousands of Delco-Heat installations shows that you can't beat Delco for gas- or oil-fired automatic home-heating equipment. Find out, now, how Delco-Heat can fit into your new home-building plans. See or phone your nearest Delco-Heat Distributor listed in the Yellow Pages of your phone book. Or, for complete information, write Dept. MB, Delco Appliance Division, General Motors Corp., Rochester 1, N. Y.

For a good deal—**DEAL WITH DELCO**



Arden Town Shopping Center in Sacramento, California used Zonolite plaster throughout . . . affords greatest possible fire protection. Plasterers save time in preparation and cleanup with Zonolite. No messy sand pile to slow up jobs.



Parkview School, New Bedford, Ind. Use of Zonolite Acoustical Plastic in all classrooms, corridors and auditorium, combines maximum fire protection with 0.65 noise reduction, at rock-bottom cost.



Charles J. Schuh Bldg., St. Petersburg, Fla. Architect Wm. B. Harvard adds insulation value, fire safety, sound control with Zonolite plaster on walls and ceilings, Zonolite insulating concrete on the roof, and Zonolite Acoustical Plastic on ceilings.



Residence and Office, Johnson City, Tennessee. Zonolite concrete under radiant heating coils provides maximum heating efficiency, low heating cost for architect, Alfred H. Abernathy.

## ZONOLITE AGGREGATES ADD ✓ INSULATION VALUE ✓ FIRE SAFETY ✓ ACOUSTICAL BENEFITS

### ZONOLITE PLASTER AGGREGATE

Used by more plasterers than any other brand of aggregate for its product performance. It's uniform, easy to use . . . saves precious time getting on and off the job—saving you valuable construction time. Affords highest attainable fire ratings for protection of floors, ceilings, columns, beams. Provides added insulation.

### ZONOLITE CONCRETE AGGREGATE

. . . makes concrete with 12 to 16 times the insulating value of ordinary concrete. Ideal for floor slabs on-the-ground or as a base for radiant heating coils. Minimizes danger of con-

densation—permits radiant heating to operate more efficiently—cuts heat loss into ground. Poured as a roof deck or to provide insulation over existing roofs, Zonolite vermiculite concrete affords fire-safe, lasting insulation qualities.

### ZONOLITE ACOUSTICAL PLASTIC

. . . lowest cost acoustical treatment to apply—0.65 noise reduction co-efficient—100% fire proof—attractive textured finish may be decorated without affecting acoustical efficiency.

*Get all the facts about Zonolite Vermiculite Aggregates. Mail coupon today without obligation.*

## ZONOLITE COMPANY

135 S. LA SALLE ST. • CHICAGO 3, ILLINOIS



Zonolite Company, Dept. MBL-112

135 S. LaSalle St., Chicago 3, Ill.

Please send me your new booklet G-24 on Zonolite insulation, lightweight Aggregates and Acoustical Plastic.

Name.....Firm Name.....

Address.....

City.....Zone.....State.....

Architect ☐ Engineer ☐ Spec. Writer ☐ Contractor ☐

Other.....





Beautiful Oak Plankweld walls in the living room of one of the Scannell Real Estate Agency homes add that special touch which instantly turns a house into a home. A touch that instantly closes the sale.

## "Weldwood® Plywood Paneling sure sold my houses fast!"

*says Mark E. Scannell, Muscatine, Iowa builder*

"We chose your products," wrote Mr. Scannell, President of the Scannell Real Estate Agency, "and are still using them because they give us the kind of construction we can be proud of. They give us what we desire in dry wall construction, strength, permanent beauty, ease and speed of installation.

"We started using your products in our smaller homes, using Plankweld® throughout with the exception of the kitchen and bath. Mahogany Plankweld was used in the living room and one bedroom. Birch Plankweld was used in the master bedroom.

"Plankweld was *so* beautiful...so economical...so effective in selling these smaller homes, we felt that it would also be the ideal material to use in our two new larger homes in the \$25,000 bracket.

"In one of these houses the only separation between the living-dining room and the kitchen was the stone fireplace. Here we emphasized the separation by the use of different wall treatments. Oak Plankweld was used on the walls of the living-dining room area.

"In the other house, we used Birch Plankweld in the living room. Two of the bedrooms have walls of Weldtex®, finished natural, and the third bedroom was knotty pine, finished natural.

"We have three houses under construction at the present time in which we are planning to use Plankweld in the living rooms of two, with Novoply\* painted in soft shades in the bedrooms. In the third house we are planning to use Novoply in the living room and paint it in deep green. These houses are to be in the \$13,000 to \$15,000 bracket."

\* \* \*

Take advantage of the magic of Weldwood paneling for building and selling *your* homes. You can see Weldwood Plankweld, Novoply, Weldtex and other Weldwood products at any of our 60 distributing units from coast to coast. Or visit your Weldwood dealer today.



Another Plankweld paneled room in a Scannell home. Plankweld paneling is so quick and easy to install. The panels are edge-grooved to provide a neat lap joint...designed with simple concealed metal clips that hold the panels firmly to the wall.



These lovely soft Weldtex walls made an instant hit with home buyers.



## WELDWOOD Plywood

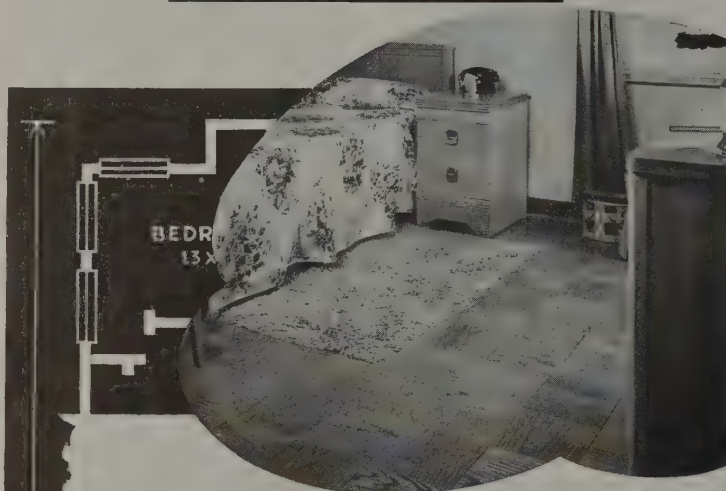
Manufactured and distributed by  
**UNITED STATES PLYWOOD CORPORATION**  
New York 36, N. Y.

World's Largest Plywood Organization  
and **U. S.-MENGEL PLYWOODS, INC.**  
Louisville 1, Ky.

\*Trade Mark Registered. Patented; other patents pending.

# Smart "FLOOR" PLANS

## FEATURE PARKAY



### The Genuine Hardwood Flooring 3/16" Thick for Economy — Factory Finished for Beauty

Parkay gives you smart styling at substantial savings. This genuine hardwood flooring is only 3/16" thick—conserving costly material without sacrificing wearing surface; permitting use with other resilient floor materials, without changing floor levels.

Parkay is factory finished, assuring a lasting lustre and richness that would be difficult and costly to duplicate on the job. It is applied with Parkay Adhesive over any smooth, sound subsurface—wood or cement. Once down, it's ready for immediate use—a beautiful and enduring hardwood floor that costs little or no more than ordinary strip finished on the job.

Parkay flooring of choice American Oak is offered in 9" x 9" Tiles and 9" wide Broadboard in random lengths. Both may also be used to produce attractive paneled walls. See Sweet's Architectural File or write direct for free literature and sample. Parkay, Incorporated, Dept. H, Louisville 9, Ky.



# PARKAY

READY-FINISHED HARDWOOD  
FOR FLOORS AND WALLS

## LETTERS—Code Babel cont'd.

of construction, thus facilitating the economical building of homes and other structures, think this is a step in the right direction.

MILTON P. KITCHEN  
Building inspector  
City of Oakland, Calif.

Sirs:

We do not feel that one code written in Washington or New York could possibly apply, and be practical all over the US where temperature changes, type of soil, and other conditions are so varied.

HENRY M. NIELSEN  
Director of building  
City of St. Petersburg, Fla.

Sirs:

National standards cannot possibly meet local conditions. . . .

Nonmetallic sheathed cable does not provide for a grounded system. Metallic armor protects against mechanical injury to wires and prevents rodents from gnawing on wire.

On your statement, "Now that extra \$1,000 is not just the sum of all the little wastes forced upon builders by local codes—a few dollars for a useless house trap . . . a few dollars for making the vent too tall for economical flashing . . . Hempstead requires such health and safety requirements for proper trap and venting to the sewage system.

As to the statement, "The real cost of codes is that their myriad variations always discourage . . . development of mass-produced . . . parts," Hempstead has no need for mass production.

Last, not least, "Does anyone doubt that, granted one plumbing standard from coast to coast, the plumbing industry could market a standard plumbing assembly whose installation would be a matter of minutes instead of hours?" There is doubt and always will be.

BUILDING INSPECTORS  
Hempstead, Long Island, N. Y.

Sirs:

Our electrical inspector is working under the National Electrical Code, our building inspector is governed by the Uniform Building Code and our plumbing inspector is governed by our local regulations. In all technical interpretations the guiding principle is not the "letter of the code" but the adherence to the general principle of safety as applied to local conditions.

R. V. BORLSKE, mayor  
City of Walla Walla, Wash.

Sirs:

"Home Rule" in Massachusetts has so far stopped all attempts to bring about fairer codes. There can be no question that politics enter into the building codes which is, of course, wrong. And, as you say, hypocrisy particularly in so-called health measures is well

continued on page 82



Everyone is looking for time-saving, labor-saving, money-saving methods in home building—trying to avoid doing things the “hard way.” Many builders have found the *EASY way* is the PEASE-FABRICATED HOMES way. Pease carefully-engineered prefabrication has eliminated the waste, uncertainties and mistakes that creep into home building. Each home plan is tops for livability—*proven* popular. PEASE-FABRICATED HOMES are delivered in easy-to-erect, precision-fabricated sections—come in complete house packages, making uneconomical piecemeal buying of material a thing of the past.

● This is PEASE-FABRICATED HOME No. 20—but one of the many designs available.



**PEASE-FABRICATED HOMES** offer better profits and a faster turnover to any builder—you need *no* franchise to build these popular homes. Just select the plan you want from the many available—specify sidewall materials, roof colors, and the alternates (if any)—and you’re in business. Remember, there’s a PEASE-FABRICATED HOME for every budget—a variation to suit every taste. All are VA and FHA accepted for maximum term mortgages.

*So—build with ease . . . build with Pease. Complete information gladly sent at your request.*

## PEASE-FABRICATED HOMES

**PEASE WOODWORK COMPANY**

ROOM 1133

CINCINNATI 23, OHIO

*“In Business in Cincinnati Since 1893”*

# Today's Best Buy!

## FOR ROOF SHEATHING

Add up *all* the costs! Inexpensive PlyScord® grade Douglas fir plywood actually *saves* you money. Means better construction, too. FHA now accepts  $\frac{3}{8}$ " plywood for 24" rafter span. Big panels cut application costs by 25% and more. Plywood reduces waste, requires fewer nails. Easy to cut, fit, fasten. Fir plywood is the perfect base for finish roofing. Dollar for dollar, practical plywood out-values them all.

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Plywood Assn.,  
Tacoma, Wash.

**Douglas Fir**  
**Plywood**  
AMERICA'S BUSIEST BUILDING MATERIAL

# Today's Best Buy!

## FOR SUBFLOORING

Look beyond the bill of materials for the full story on subfloor costs. It's the *applied* costs that count. Inexpensive PlyScord® grade fir plywood cuts labor costs in half... saves on nailing... cuts expensive waste... speeds application of finish flooring. Plywood subfloors are firm, solid! Won't cup or squeak. Ideal for underlayment, too. Remember, dollar for dollar, practical plywood out-values them all.

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Tacoma, Wash.

**Douglas Fir**  
**Plywood**  
AMERICA'S BUSIEST BUILDING MATERIAL

## PANEL DISCUSSION

### Builder Saves \$10 Per Square With Plywood Siding-Sheathing



With unlimited choice of building materials, Rusdick Lumber Sales chose plywood siding for its new Tacoma, Wash. warehouse and the builder reports the panels cut construction costs by \$10 per square. "We chose plywood because we like a smooth, flush exterior surface but cost was an important factor and plywood was cheaper," says part-owner Russell Ross.

MacDonald Building Co. designed and built the new structure. According to L. B. MacDonald, plywood afforded the least expensive satisfactory construction. He estimates the in-place cost of plywood, unpainted, with studs 16", o.c., and metal flashing, at \$68 a square—some \$10 less than the in-place cost of other siding combined with the necessary sheathing.

The building is 50' by 150', 20' high to the roof trusses. PlyShield grade plywood,  $\frac{5}{8}$ "-thick, was used as a combined siding-sheathing. Panels were applied horizontally with metal flashing.

### Builder Reports Plywood Speeds Siding Application by One Third



Builder-Owner H. J. Cox reports application time and labor costs were reduced by one-third with Douglas fir plywood siding in building this Eugene, Oregon, home. "Not only did the plywood help hold costs down," Builder Cox reports, "but after over four years exposure to our rainy Northwest weather, the siding looks as good as the day it was finished." Architect Percy D. Bently specified the interesting batten detail shown. Exterior plywood panels were sawn to correspond with the bevel of the specially run molding and tightly fitted with a sealing of white lead paste. Corners were formed with  $\frac{5}{8}$ " quarter rounds. The siding—4'x8' sheets, cut to 2'x8'—is painted beige, the moulding tobacco brown.



## Prefabricator Cuts Costs With Douglas Fir Plywood

Douglas fir plywood, which has been anonymous with prefabrication since 1935 when the first "stressed skin" plywood house was built by the U.S. Forest Products Laboratory, today remains the leading material for line production of modern housing.

Evidencing this fact are the comments of H. Arthur Tucker of Southern Mill & Manufacturing Co., Tulsa, Okla. The firm is one of the nation's pioneer prefabricators, having mass-produced houses for over 32 years—largely for petroleum industry housing projects. Says Tucker of plywood: "Plywood wall and roof sheathing and subflooring are, of course, far stronger and more rigid than other materials. But it cuts costs, too. Plywood wall and roof sheathing cost about 85% as much as 1" boards and can be installed in 40% fewer man hours. Considering time, labor and material savings, plywood subfloors cost less, too. Plywood's light weight means an average savings of \$30 to \$50 per house in shipping costs and greatly speeds site assembly."

## Portable Units Help Solve Schoolroom Shortage



To solve pressing classroom shortages due to shifts in population, school systems in many communities are turning to portable classrooms as a quick and economical solution. In Tacoma, Washington, 60 are used by the city's schools. Thirty-five are of lightweight plywood construction; ten were built last year by E. Goettling & Sons, general contractors, from revised designs by Lock and Morrison, architects.

"We've been using plywood for four years," says James Hopkins, assistant superintendent of schools in charge of construction. "The portable schoolrooms are fully as well built as the average house and we expect them to be good for 50 years. Plywood construction is lighter and gives maximum bracing strength—a must in movable buildings."

Each building is 24'x36'. Plywood is used for subfloors, roof sheathing, paneling, built-ins and exterior siding. Modular design based on standard plywood panels, helps speed work and cut costs. Plywood not only makes a sounder, tighter building, but it presents a clean, modern appearance—a far cry from the unpleasant "temporary look" of other similar structures.

**FOR  
EXTERIOR SIDING**

Here's how you save with Exterior plywood (EXT-DFPA®). Costs no more—often less—per square foot than other materials. Can be applied up to one-third faster. Less waste, fewer nails. Think of the savings on a single job. Multiply that by every home you build next year. Exterior plywood is durable. Has completely waterproof bond. Adaptable to any design. Won't split or crack. Ideal for gables, soffits, trim. Can be used as combined siding sheathing. More than ever it's today's best buy.

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Plywood Assn.,  
Tacoma, Wash.

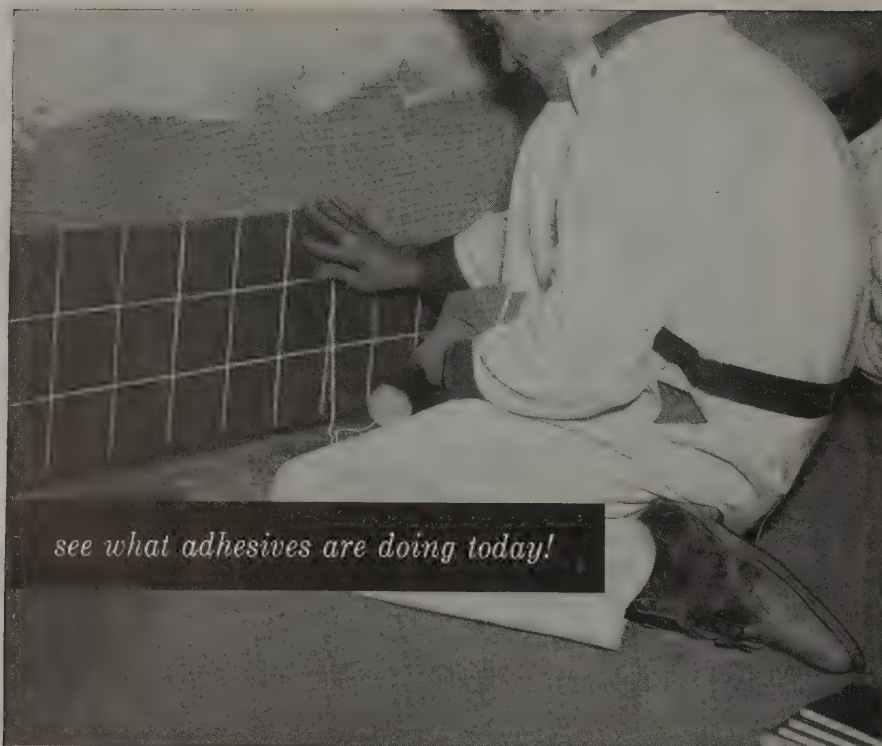
**Douglas Fir  
Plywood**  
AMERICA'S BUSIEST BUILDING MATERIAL

**FOR  
BUILT-INS**

The "sold" sign goes up faster when you feature plywood built-ins in your homes. Big, low-cost real wood panels give you complete flexibility of design, size and color. No bothersome juggling of "stock" units... no complicated framing. Plywood saves time and labor. Ideal for modern color treatments that feature real wood texture. It's splitproof, puncture-proof. Best for any built-in. And remember, when you add up all the costs, practical plywood out-values them all.

Douglas Fir  
Plywood Assn.,  
Tacoma, Wash.

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Plywood**  
AMERICA'S BUSIEST BUILDING MATERIAL



*see what adhesives are doing today!*

## Setting tile in thrifty style

Look behind clay tile for the big news in construction methods today! 3M Ceramic Tile Adhesive is showing builders how to set tile faster . . . at less cost!

In new homes, builders find they can build "dry wall"—eliminating heavy mortar and steel lath—and get a clay tile job with 3M mastic that will last a lifetime. Remodeling jobs are simplified because 3M Ceramic Tile Adhesive eliminates rebuilding walls. Tile can be easily and rapidly set on existing surface.

3M Ceramic Tile Adhesive is tough, resilient and durable, resisting cracks, moisture and settling. It is clean and easy to handle. Reports from all types of building jobs show it can cut costs up to 20% on tile setting.



### FREE SPECIFICATION AND DATA SHEETS:

Whether you are a builder, architect or tile contractor, 3M Ceramic Tile Adhesive is money-making news to you. Write 3M, Dept. 1411, 411 Piquette Ave., Detroit 2, Michigan, for latest information.

### MINNESOTA MINING AND MANUFACTURING COMPANY

Adhesives and Coatings Division • 411 Piquette Ave., Detroit 2, Mich.  
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MAKERS OF "SCOTCH" • BRAND PRESSURE-SENSITIVE ADHESIVE TAPES • "SCOTCH" BRAND SOUND RECORDING TAPE • "SCOTCHLITE" BRAND REFLECTIVE SHEETINGS • "3M" ABRASIVE PAPER AND CLOTH • "3M" ADHESIVES AND COATINGS • "3M" ROOFING GRANULES • "3M" CHEMICALS

## LETTERS—Code Babel cont'd.

known to anyone who has held public office.

To the best of my ability, the local situation has been kept on an intelligent level but even so, we enforce rules in New Bedford that are not enforced in surrounding towns.

The answer is the one which you suggest—a united effort on a state or national level with the people behind it.

EDWARD C. PEIRCE, *mayor*  
*City of New Bedford, Mass.*

Sirs:

We agree on your complaint about codes, but you only have a part of the answer—honest workmanship under almost any code would be better than some of the building most towns enjoy.

JAMES O. CONVILL, *city manager*  
*Corvallis, Ore.*

Sirs:

I would like to suggest that price tags on new homes should show in each case for just how much of the high cost obsolete and arbitrary building codes are responsible.

If the homebuilding industry is unable to bring about a national code based on performance instead of prejudice, then this would put it right up to the people who pay—the whole home-buying public.

BEATRICE GOULD, *Ladies' Home Journal*  
*Philadelphia 5, Pa.*

Sirs:

Our city is working under the Pacific Coast Building Code. It appears unwise to us at this time to attempt any change.

R. E. CHEEVER, *mayor*  
*City of Cheyenne, Wyo.*

Sirs:

I do not believe a national building code would work well because of different climatic conditions and because it might be used to favor certain materials and equipment.

E. J. EVANS, *mayor*  
*City of Durham, N. C.*

Sirs:

There are no countless unpredictable or senseless variances from sound national standards in the New Rochelle Building Code that would add to the structural cost of a substantially built small dwelling.

CLARENCE A. DASSLER, *Building official*  
*City of New Rochelle, N. Y.*

Sirs:

Our building code is not rigid. Basements are not required; foundations must go 4" below frostline; we require 8" walls whereas Westfield requires 10" and Holyoke, Mass. 12".

PIERRE DREWSSEN, *mayor*  
*City of Northampton, Mass.*

*continued on page 166*



# Give style to the bathroom for added appeal



Of all the features that help sell houses, bathrooms are one of the most often neglected from a decorative standpoint. Where there's little space for anything but the essential fixtures, it's a real challenge to find room for any original treatment. One idea for a bathroom that will attract more than usual attention—and add saleability—is to give it colonial charm like the one shown here. It's an unusual bathroom effect that can be built inexpensively and without taking up extra space. White painted paneling and the floor of Armstrong's Spatter Linoleum give it an authentic early-American styling.

But regardless of the style of the bathroom, a floor of Armstrong's Linoleum is more than a decorative touch. It's a practical bathroom floor with universal sales appeal. Housewives know how easy it is to keep clean, what long wear it gives. Virtually seamless, splashproof, quiet and comfortable underfoot, it's a big flooring value for its moderate cost.

Spatter, the most popular new linoleum styling in 20 years, is appropriate for modern as well as colonial houses. Available in 11 different colorings, it makes a handsome floor just as it comes from the roll, or sev-

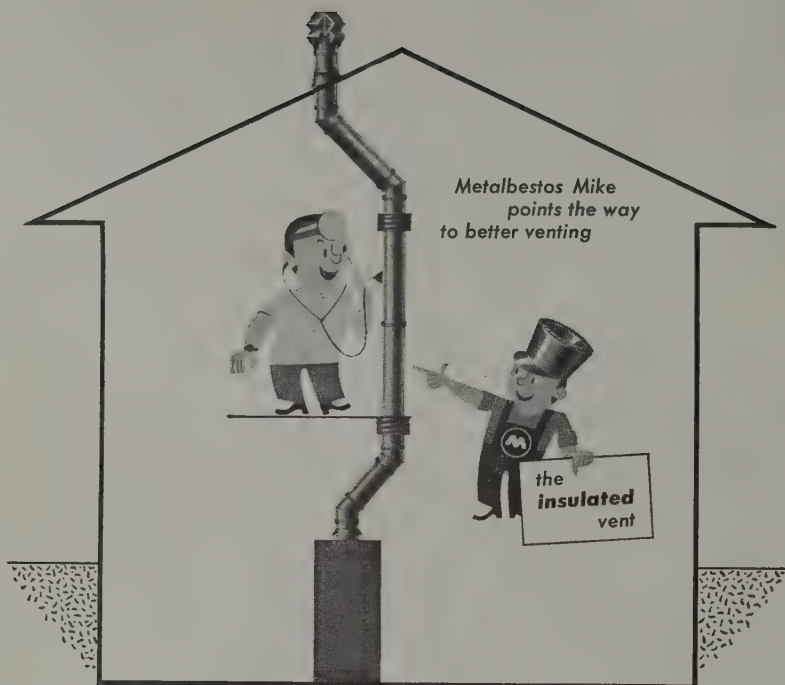
eral colors can be combined in harmonious custom effects.

Armstrong's Linoleum also offers an exceptionally wide range of other beautiful designs and colorings that make a perfect background for any style of bathroom. An original approach to bathroom design, with a handsome, practical floor of Armstrong's Linoleum, could prove to be just the feature that will clinch a sale.

**SEND FOR FREE ROOM PLAN.** For a sketch plan of this bathroom with fixture layout, color scheme description and a complete list of furnishings, write Armstrong Cork Company, 1411 State Street, Lancaster, Pennsylvania.



## ARMSTRONG'S LINOLEUM FLOORS



Metalbestos Mike  
points the way  
to better venting

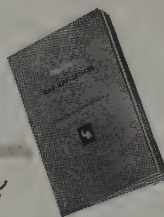
## Be sure of a HEALTHIER HOME WITH METALBESTOS GAS VENT

Every home—regardless of cost—should have  
the benefits of safer, more efficient gas venting.

Metalbestos' insulated double wall construction assures clean, fresh air—free of fumes and musty odors—throughout prolonged operation of gas appliances. It gives maximum protection to walls, draperies and furnishings against damage caused by moisture condensation.

Special precision-formed couplers make possible accurate, fast assembly—cut installation costs—and provide tightly sealed joints. All aluminum construction eliminates cracking and prevents deterioration from the corrosive effects of flue gases.

Specify Metalbestos—protect yourself against complaints or costly repairs due to improper venting—give your clients the finest in venting protection.



### Send for FREE VENTING MANUAL

This useful manual, "Venting of Gas Appliances," contains important rules and helpful tips on approved venting practices. No cost or obligation.

Write today to Dept. D.

# METALBESTOS DIVISION

WILLIAM WALLACE COMPANY • BELMONT, CALIF.

## BEHIND THE BLUEPRINTS



A down-easterner by birth (1923), **HOWARD BARNSTONE** received his early education in Maine and New York City, and his Bachelor of Arts at Yale in 1944. His schooling was interrupted by two years

of wartime service in the navy, during which time he was a lieutenant junior grade stationed in France. Following demobilization, Barnstone returned to Yale to receive his Bachelor of Architecture in 1948. Leaving the Northeast behind, he migrated south to teach in the department of architecture at the University of Houston and in 1949 he added a private practice to his academic duties. The Blum house (p. 136) is a product of this extracurricular activity.



Architect **JOHN FUNK**, 44, was born in California and has confined his education, apprenticeship and practice to his home state. Born in Upland, Funk graduated from the University of California in 1935 with an M.A. to

his credit. From 1935 to 1938, he worked in William Wurster's office, finally leaving his native West Coast to travel in Europe for a year. Returning in 1939, he opened his own San Francisco office and soon after, designed the now-famous louver-fenced Heckendorf House in Modesto, Calif., singled out by the Museum of Modern Art for inclusion in its "Built in USA." Featured this month is another fine house, this one in the rolling hills near Stanford University (p. 114). Funk's is a general practice, however, encompassing both residential and commercial design.



Architect **ALEXANDER GIRARD**, 45, has a cosmopolitan background covering two continents and 14 countries. Born in New York, he lived in Florence, Italy until he was 13, attended public school in England, studied architecture

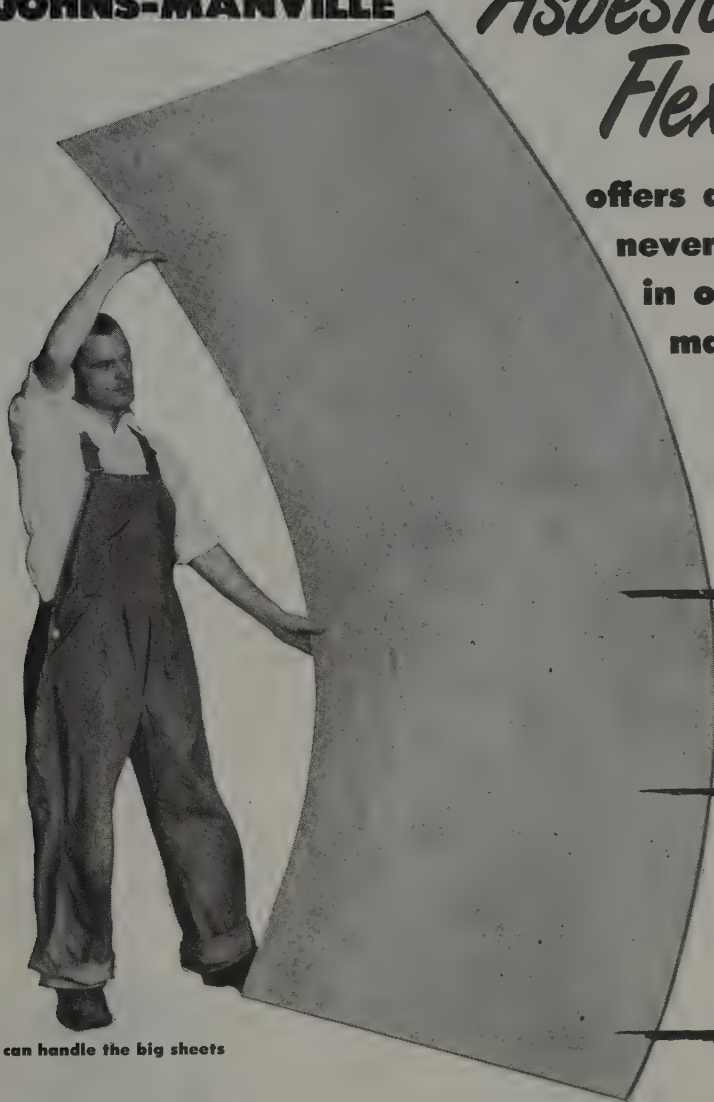
in Britain, Italy and the US (N.Y.U. 35), made a study tour of ten other European countries. Girard has worked for architects in Florence, Rome, London and Paris, has had his own offices in Florence (1930), New York City (1932) and Detroit (1937), the latter representing his last major move. Girard's work has earned him five awards, includes building, fabric and furniture design. Illustrated this month is a pair of Girard houses in Grosse Point, Mich. (P. 120.)



**JOHNS-MANVILLE**

# Asbestos Flexboard

**offers advantages  
never before combined  
in one building  
material.**



One man can handle the big sheets



Easy to nail



Easy to handle



Strong and tough

**Asbestos Flexboard** answers a thousand building needs  
for the home, for the factory, for the farm!

IT'S DIFFICULT to appreciate the many advantages of Asbestos Flexboard until you have used it. It wears like stone, it's light in weight, and it can be flexed to fit curved surfaces. On the job, ordinary hand tools are used to work Flexboard and customary construction methods are followed.

It can be applied horizontally or vertically, and can be nailed close to the edge without drilling.

Made of asbestos and cement, Flexboard is fireproof, won't rot, rust or corrode, resists rats and termites. Large 4' x 8' Flexboard sheets come in 3 thicknesses— $\frac{1}{8}$ ",  $\frac{3}{16}$ ", and  $\frac{1}{4}$ ".

Flexboard has an attractive stone-grey color with a smooth hard surface that needs no other finish. As soon as it is in place, it is ready for years of maintenance-free service.

For more information about Asbestos Flexboard, write Johns-Manville, Box 60, New York 16, N.Y.



**Johns-Manville**



*Styled*

AND BUILT

TO THE MODERN IDEA IN BATH FACILITIES

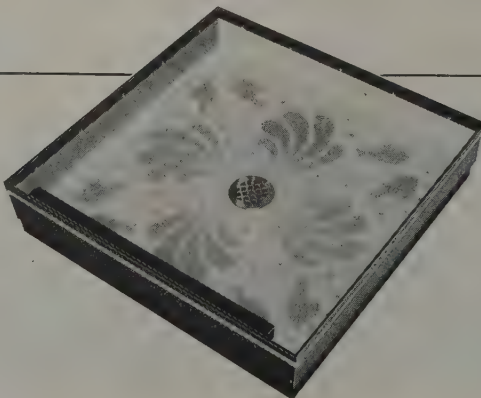
In clean-lined functional design, structural integrity, service-tested materials, Weisway Cabinet Showers fit perfectly with the most advanced building techniques—and provide the perfect answer to the rapidly growing preference for shower bathing. Space-saving Weisways make added baths easily possible in homes of all sizes.

Comfort, safety, sanitation are all served by leakproof Weisways with the exclusive Foot-Grip, No-Slip floor of vitreous porcelain—easy to keep clean and thoroughly non-absorbent. Weisways are complete, self-contained units, not affected by shrinking or settling of surrounding materials.

Your clients are assured long years of satisfaction, and your reputation is protected when you specify Weisway Cabinet Showers. Write for catalog with detailed information.

**Weisway** CABINET SHOWERS

HENRY WEIS MANUFACTURING CO., INC.  
1142 Weisway Building, Elkhart, Indiana



Weisway Model VR meets your quality standard for fine homes. Unit shown in bathroom illustration above is Weisway VRC, corner entrance model.

Vitreous porcelain enamel, fused on one piece of heavy enameled iron, provides a positive leak-proof base. Textured floor is safe, comfortable, sanitary.

## BEHIND THE BLUEPRINTS



**ELI AND GERALD LURIA** are Washington builders with a bent for contemporary design. Their father built apartment houses in the nation's capital for 30 years, but neither son worked for his parent. Eli, 33, went to Corcoran Art School for two years, graduated from the University of California at Los Angeles, was a surveyor in Washington and, during the war, a draftsman at the Army War College. Gerald, 35, attended George Washington University, was in the jewelry business before the war. During World War II he served with the air force in the China-Burma-India Theater. In 1946, the brothers started to build houses, Cape Codders at first, then modern structures. The latter sold so well that the Lurias are now building their third contemporary development designed by the same architects, this one including individual-sale houses, garden apartments and a shopping center (p. 140). Singularly uninfluenced by labels, Eli Luria states: "We are not concerned whether our architecture is 'modern' or not. We try to approach each project as a separate problem that has to be solved in an intelligent and efficient way. If our architecture is so-called 'modern,' it is only because it has solved our problems in the best possible way." Since 1946, the Luria brothers have built more than 450 houses.



Thirty-seven-year-old **EUGENE D. STERNBERG** is a native of Czechoslovakia and an alumnus of Prague University ('35-'38), the Bartlett School of Architecture, Cambridge, England ('39-'42), and London University

('42-'43), where he did postgraduate work in city planning. He practised architecture in London, designing housing projects and re-planning bombed-out neighborhoods before coming to the US in 1946 to teach architecture at Cornell. He subsequently taught at Denver University, sank roots in the West, now devotes all his time to his two-office practice in Denver and Sterling, Col. A firm believer in harmonious, integrated communities (like the Mile High Development (p. 130), he dislikes scattered modern houses in unrelated settings. Opposed to specialization, he designs all building types, from a 220-unit public housing project to schools, office buildings and a labor-union headquarters.



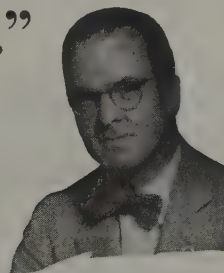


Builders of these low-price, two- and three-bedroom homes at Branford, Connecticut, started out to provide "something more than just a house and lot"; ended up with practically all the amenities wanted by today's homemakers. Adequate insulation, "built-ins", a fireplace

and a terrace are a few of many features. Living and dining areas overlook scenic sites, minimum size of which is 100 x 150. Roads, in the development, follow natural contours of the land. Construction was by The Builders Group, under the supervision of Peter Powers Hale.

## "New England winters no problem..."

*Orchard Hill Homes Economical to Heat—Thanks to Fiberglas  
Insulation and Orientation of Glass Areas Toward Sun*



"Below Zero Temperatures do not faze our buyers," says Peter Powers Hale, designer of the modern Orchard Hill project.

"All houses are oriented to capitalize on the sun for winter heat. This use of the glass wall makes for economical heating, low-structure cost and appearance of great space on the inside of the home.

"Fiberglas\* Insulation Is Essential, of course, in keeping owners comfortable all year round and in reducing fuel bills. Furnace heat stays inside Orchard Hill homes, for we use 1,250 sq. ft. of Fiberglas Insulation in each unit.

"Originally, we specified it because it is permanent, fire safe, and the most efficient insulation we know. But experience has indicated other advantages. Prospects recognize Fiberglas as the insulation that is standard in leading ranges and refrigerators, are quick to accept it as a sign of quality construction."

**What About Your Project?** Build the sales features of extra comfort and economy into your homes, too. Standardize upon Fiberglas Building Insulations—available nationally from the dealers of these firms:



Owens-Corning Fiberglas Corporation, Dept. 67-K, Toledo 1, Ohio. *Improving building everywhere by co-sponsoring the Housing Research Foundation of the Southwest Research Institute.*



OWENS-CORNING  
**FIBERGLAS**

\*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with fibers of glass.

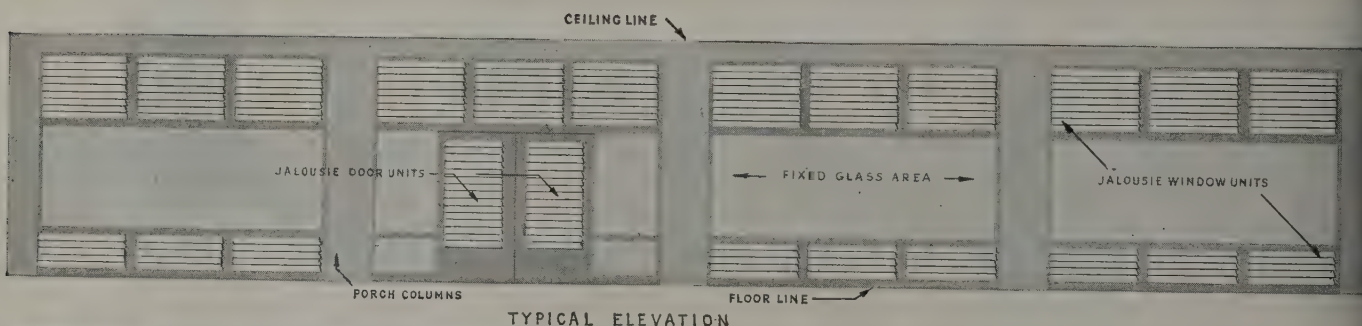
*is in your life..for good!*

# at Inverness Club

TOLEDO, OHIO



## JALOUSIE WINDOWS AND DOORS



\*Mr. H. M. Lewis, General Manager of the Inverness Club, reports an amazing increase of patronage in this newly decorated and Jalousie equipped club restaurant.

The pleasant dining-room at Inverness overlooking the broad expanse of fairways is now a most delightful place with a new facade of glass . . . walls with 65 units of Win-Dor Approved Jalousies above and below large picture windows . . . Walls that open making an outdoor room, inside. Yet, with convenient control they become weathertight in seconds. Here is a modern transformation of beauty and utility that would be welcome anywhere, especially when it can so easily change dingy, unattractive areas into glamorous places of greater utility and revenue.\* Most old, wide verandas and porches like this can be enclosed for year round use and modernized almost overnight.

See our catalog in Sweet's or write direct for details and information.

Win-Dor Approved Jalousie windows are a product of the Casement Hardware Co., manufacturers of the Win-Dor Casement Window hardware famous for quality since 1906.

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# Prefabricated houses —

## Should the builder fight 'em or join 'em?

A new high of 60,000 houses was reached in 1952 by the prefabrication industry. With new designs and services to offer, prefabricators may do even better in 1953. For readers who want to make an up-to-date appraisal of prefabrication, HOUSE & HOME presents a 29-page section on this fast-growing field.

*There is nothing radical about a builder who buys a prefabricated house. He is only carrying on a trend that started years ago.*

*Builders originally made everything for their houses. Gradually they bought more and more from outside specialists. It was faster, easier and cheaper that way.*

*Around the US today some 5,000 or more builders are going several steps further in their buying process than the rest of their colleagues. They buy almost the entire house or fewer components depending on their needs.*

Prefabricated housing, after a war boom and postwar growing pains, is settling down to the role of a major industry. Many of the obstacles that dogged its early growth are fast diminishing: public prejudice, unfavorable codes, skeptical builders, lack of financing. Some prefabricators believe that builders, if and when they feel the pinch of rising costs and a lessening demand, may have to come down to a lower profit margin. One way they can meet tightening competition may be to get the benefits of quantity production which prefabricators can offer.

The industry, with 250,000 units to its credit since 1946, has been netting steady increases: from 37,200 units in 1946 to 55,000 in 1950—housebuilding's record year. Last year total US house starts slumped 22%; prefab sales dropped only 9%. This year prefabs will account for roughly 8% of total US house starts.

**Prefabbers say that they are doing almost one-third of all new housing in Indiana**, heart of the "prefab belt" and birthplace of the industry. And in Illinois, Pennsylvania, Wisconsin and surrounding states, prefabs are a commonly accepted commodity. This regional concentration, the natural result of manufacturers selling close to home, has spread out since the early stages to all corners of the country, with plants in 30 states and some 5,000 dealers covering 40 states.

**Surprisingly, prefabbers report that instead of having the building trades against them, they have the unions on their side.** The unions, they say, are playing along with the prefabricators, who are primarily union—in contrast with conventional builders who are 80% non-union.

For their long rail hauls (primarily to the far West) big prefabricators have sued and succeeded in getting 33 1/3% reductions in freight rate differentials. In order to draw the major part of their markets within trucking distance, which means less damage, less handling from factory to site, they are starting to decentralize—believing that their future lies in scattered plants.

Today 80 or more firms list themselves as prefab manufacturers; close to 50 are well-established producers, and the 38 who are members of the Prefabricated Home Manufacturers Institute account for the lion's share (50,000 out of 55,000) of total annual output.

By and large, their product is still a low-cost house, \$8,000-\$12,000 to the customer, including lot. But during the past year prefabricators have gone into higher-priced homes in volume, with a half dozen firms devoting anywhere from 15% to 50% of their production to houses over \$12,000.

*Continued on page 90*

Methods vary widely among manufacturers: from precut houses (bundles of lumber cut to proper dimensions) to "fold-out" houses to a factory-assembled unit that rolls off the production line ready for occupancy. But most companies offer panelized construction—4', 8', room-length or house-length panels with or without interior and exterior finishing materials.

**About half the major prefabricators are already working on plans to include air conditioning in their models.** Their highest estimate is \$400-\$700 over the price of heating a plant alone, and at least one of the largest firms is holding off on air conditioning because it thinks even this price is out of line.

Prefabrication has made solid progress, and it hasn't yet gone as far as it can go. With sizable research budgets aimed at better materials, production and marketing, the biggest prefabricators are contributing leadership to this still-young industrial revolution in housing. If the home-buying public is to get such benefits as result from prefabrication, a good part of the job is up to the builder—to handle the package as efficiently as it is made in the factory, and hold his profit to a reasonable margin.

## What's in it for the builder? The prefab manufacturers answer:

**1. Less labor**—generally, less high-priced skilled labor particularly; fewer men needed to erect each house and lower average hourly wages. A builder can offer year-round employment. The prefabricator's labor is lower, too. (An hourly average is \$1.50 contrasted with \$2 and up for carpenters.)

**2. Less working capital** per house and a faster turnover of the builder's investment, hence less interest charges to be paid.

**3. Less supervision**—A builder gets precision workmanship supervised by plant inspectors.

**4. Less overhead**—Smaller crews, less equipment, less paperwork.

**5. Less purchasing**—No shopping around for individual items; fewer worries over availability of materials; fewer delays waiting for deliveries.

**6. Less inventory**—The manufacturer has the inventory; hence

**7. Less pilferage**—No loose lumber or other items left on site to tempt passersby, and

**8. Less waste**—Precut, preassembled lumber eliminates cleanup.

**9. Faster erection time**—Under roof and doors locked in a day, occupancy in a month.

**10. More houses per year** with the same size crew. This means:

**11. More profits per year**—A builder can take a lower margin, beat competition, still make a larger year-end profit.

**12. Year-round building**—A builder theoretically needs only one good day to get a house under roof. Finishing can go on inside during bad weather. Some cover the ground with

straw and pour foundations all winter; others lay foundations ahead in fall, cover them with straw and use one each good winter day.

**13. Better construction**—No. 1 lumber used almost exclusively, accurate assembly on jigs.

**14. Better design**—In some cases the package includes services of architects and engineers small builders usually cannot afford.

**15. Cost estimating**—Many prefabricators supply specific cost breakdowns compiled from experiences of local dealers. The builder gets his materials (and the labor that went into them) at a fixed price that doesn't fluctuate.

**16. Financing**—Large prefabricators supply interim financing, when not available locally, through their own acceptance corporations; others run interference with the builder's banks and loan companies. Some can help him place his final mortgages.

**17. FHA and VA**—Many supply partially completed Description of Materials forms and help complete them. Some furnish complete blueprints, specifications and plot plans, send field men and engineers to work with FHA and VA offices.

**18. Land planning**—Some lay out subdivisions, plan plots, locate each house with setback, supply different elevations, recommend landscaping, style colors.

**19. Advertising**—Direct, for the specific builder (maps, commercials, sales literature, handouts, etc., free or expenses shared) and indirect (advertising for the product, paid by the manufacturer).

**20. Model homes**—Advice on furnishing, signs, advertising and sales techniques. The builder knows how the house looks before it is built, can show prospective buyers photos, plans and prices without building a model.

## There are also limitations...

*Most prefabrication systems still leave the lion's share of the job to the local builder: sidewalks and driveways, grading, foundations, plumbing, heating, wiring, masonry, roofing, finished floor, etc. Thus the savings of factory prefabrication come mainly in the shell of the house and in related dealer aids.*

*Most old-fashioned building methods cannot compete with prefabrication. But almost any builder could cut costs by simplifying his framing and designing for rapid erection.*

### Prefabrication seems to offer least to:

**1. The large-volume builder who can duplicate the prefabrication processes close to his site; any builder who has relatively low labor costs for cutting and subassembly and who has worked out an economical panel or framing system, including trusses and interior partitions.**

**2. The builder who gets half his fun from planning his own house and working with his architect.**

**3. Areas where people have a strong prejudice in favor of architecture or materials not offered in prefabs.**

**4. The builder who is convinced he can build a better-designed house than prefabricators have customarily offered.**

**5. Builders working in a price class (above \$20,000, for example) where people want something decidedly individual.**

**6. Towns where local codes prohibit panel construction or other prefab methods.**

**7. Small builders too far from a factory to make small orders profitable, or in highly competitive areas where competition has already forced prices low.**



Last month 15 of the nation's leading prefabricated house manufacturers were guests of HOUSE & HOME at a day-long New York conference which had the earmarks of both a round table and a mass interview. With editors of H&H's sister publications TIME, LIFE and FORTUNE sitting in, the prefabbers unlimbered some trade secrets of their young-giant industry.

# The prefabricators tell their story



*Prefabs fit well into old neighborhood in Dobbs Ferry, N. Y.*  
*Prefab plant locations. Dots show relative size*

## FOR THE PREFABRICATED HOUSE MANUFACTURERS:

**John C. Taylor, Jr.**  
*president, American Houses, Inc.*  
*president, Prefabricated Home Mfrs. Institute*

**William B. F. Hall**  
*president, General Industries, Inc.*  
*vice president, PHMI*

**Robert E. Ott**  
*general manager, Harnischfeger Corp.*  
*secretary-treasurer, PHMI*

**Harry H. Steidle**  
*manager, PHMI*

**Walter H. Ahrens**  
*president, Southern Mill and Mfg. Co.*

**Hart Anderson**  
*vice president, Page & Hill Homes, Inc.*

**Frank A. Baldus**  
*president, Admiral Homes, Inc.*

**W. G. Best**  
*president, Best Factory-Built Homes, Inc.*

**Ivon R. Ford**  
*president, Ivon R. Ford, Inc.*

**P. S. Knox, Jr.**  
*president, Knox Corporation*

**Robert J. Lytle**  
*partner, Lumber Eng. Co. (Modern Homes)*

**W. L. Mainland**  
*general manager, Lumber Fabricators, Inc.*

**John J. O'Brien**  
*president, Gunnison Homes, Inc.*

**James R. Price**  
*president, National Homes Corp.*

**Frank Thyer**  
*president, Thyer Mfg. Corp. (Pollman Homes)*

**C. H. Renner**  
*sales manager, Thyer Mfg. Corp.*

**Charles F. Travers**  
*president, Richmond Builders, Inc.*

## FOR HOUSE & HOME:

**PRESIDING:** P. I. Prentice, *editor and publisher*

**GUESTS:** *editors from TIME, LIFE and FORTUNE magazines*

## Are prefabs 20% cheaper?

**Prentice:** My recollection is that the spread between what you sold the house to the builder for and what the public pays for the house was just about 200%.

**O'Brien:** That is right. But we now have started some engineering and research to take the same savings we get in the plant right out into the field. I think there is a tremendous amount of work that could and should be done there: savings in plumbing, savings in wiring, slab foundation, all of that, and possibly better buying locally by the little dealers in the field. We don't ship wiring and plumbing; that is all we leave out. We used to ship a prefabricated plumbing tree.

**Price:** You get into code problems doing that.

**Anderson:** We built a prefabricated plumbing tree right after the war when the builder in the small town could not get the material but the prefabricator could. At that time it was acceptable. But now—well, the plumbing industry is the hardest thing that we are going to have to crack in the prefabricated housing business.

**Price:** That is true in *all* the housing business. The problem is not cost. It is collusion among the contractors. They try to make \$500 profit on a plumbing job. They try to make more than the builder.

**Prentice:** Do you think prefabrication can cut the price of housing 20%?

**Price:** Twenty per cent and more, and an even higher per cent on bigger houses. In Hinsdale, Ill., 900 sq. ft. National homes are selling for \$9,385. The closest comparable conventional house we could find was \$1,900 more. In Westchester, a suburb of Chicago, our dealer sells our 1,000 sq. ft. house with extra trimmings for \$13,500; the closest other builders can come is \$15,000. In Wheaton, Ill., it is \$12,300 vs. \$16,500; Steger, Ill., \$10,700 vs. \$13,650; Chicago Heights, \$10,800 vs. \$13,650; Des Plaines, \$12,900 vs. \$15,590; Champaign, Ill., \$9,400 vs. \$12,000. The ultimate sales price of our house runs 142%, not 200%, of factory cost.

**Renner:** We deliver to a builder in one package. That eliminates the majority of the purchasing required to build the house. *A builder can build three of our houses in the same time it would take him to build one conventionally.* In other words, if he made 10% conventionally and it took him 90 days to build that house, with our method he could build three houses in the same length of time. So, if he maintains the 10% profit, he would be making three times as much money in the same time. Right now our product is being built adjacent to Park Forest. Ours is a comparable house to theirs, but it is at least \$1,500 cheaper.



**Taylor:** This year's trend was toward modern: larger overhangs, lower roofs, sometimes flat roofs.



**Price:** To get our houses into Chicago, we signed an agreement with International. We have to ship with interior doors unhung.



**O'Brien:** Our steel houses will come from the most highly mechanized housing plant on earth.



**Ott:** The prefabrication package should include financing and assisting the builder.

**Ott:** When we design a prefabricated house, we take into consideration heating, plumbing, wiring and all the rest. Our heating is laid out for the minimum amount of ductwork necessary. You don't have to cut any joists. Wiring is laid out in such a way that it is a very simple matter, and plumbing the same. I think prefabrication goes further than just a package. It has grown beyond the technical structural stage. *The whole package should include—and it does in our case—financing and assisting the builder in the construction.* This is the important thing that gets the lower-cost product to the consumer. The actual manufacture of the parts, the assembled sections, is only part of it. I think that when you get financing charges, service charges, interest and what-have-you on the loans and the mortgage on that house, that conventional financiers can look forward to several hundred houses at a time. Our own acceptance corporation helps considerably to bring down the price to the consumer. One of our dealers says these factors enable him to finish his house for about 15% less than conventionally.

**O'Brien:** Our figures show 15%.

**Knox:** Down south we never have enjoyed more than a 10% advantage. I would say from none to a maximum of 10%. I would say 20% is easily possible in the future, however.

**Ahrens:** I don't think it could be done on the over-all cost of the house, which means including the cost of plumbing, painting, wiring, foundations, etc.

**Best:** We are finding it just about 15% in some of the larger homes. When you get beyond the \$12,000 mark, the difference rises quite rapidly.

**Hall:** Give us prefabricated plumbing and

some breaks in the national codes so that we can design for large volume and certainly 20% would be only the beginning.

**Anderson:** The prefabricator takes a conventional builder and changes his methods of doing business, or operating a business efficiently where he couldn't before, especially where he didn't know costs. We have a heating unit that is installed in our factory, with all the ducts in. We furnish a furnace, and it is installed for \$550, where normally it would cost the builder \$750, because we buy direct from the plant at Wichita. We furnish the furnace to the builder at no increase in cost.

**Mainland:** If we are selling only 40% of the completed house, I don't think that we do our cause particular good by holding out the hope of excessive savings, 20% or 25%, with respect to the *whole* house. The package we are furnishing is a relatively small percentage to begin with. Obviously prefabrication is not materials alone, it is a method. You can deliver the same package and the same principle to one man, and he will fall flat on his face, and you can deliver it to another and he will do it successfully. *Do we or don't we train the builder sufficiently in the steps that will lead to success?* I say it depends on the way it is used after you deliver it.

**Lytle:** I think we can make a 20% saving in some areas. I know there are some areas in this country where building is so highly organized there is not a prefabricator in this room who can move in and save the builder and consumer a dime. But there are also areas where we can save the consumer 20 to 30%.

**Travers:** I would say our saving is around 10%. In some areas it might be more, but it depends largely on labor unions and codes.

### How many compromises do the unions require?

**Price:** We are making one in Chicago. We have the AF of L Carpenters and Joiners Union in our plants. When we negotiated back in 1941, they made up a lateral deal that wherever a house was shipped, the AF of L Building Trades would install it. But when we first shipped into Chicago our houses were attacked by all the other unions. The glaziers didn't want them glazed, the carpenters didn't want the windows in or the doors hung and so forth. We finally made an agreement with them by getting the International behind us to agree that we would not hang our interior doors. We started shipping bamboo curtains with no installation, but that is the only concession we had to make. We hang our exterior doors and ship our windows.

**Prentice:** The only concession was interior?

**Price:** We mortised the door. It just had to be screwed on. The carpenter puts the locks in the holes we have already made.

**Travers:** We can't hang our doors.

**Mainland:** Neither can we. Don't you have to sign an agreement as National Homes with the Chicago Council in order to work on that basis, a direct agreement outside of what you have with your shop?

**Price:** Yes, we signed an agreement. We agreed that we would ship our houses in with interior doors unhung, and the dealer would hang them. We have found the In-





Bill Hedrich, Hedrich-Blessing

**Prefab design continues to improve:** Harnischfeger pilot model, at left, (also shown on page 96) has glass-walled living room looking out on a real garden sheltered by the bedroom wing at left and carport storage wall, right.

**Hall:** A prefab has the advantage of a trade article: over the years you can look in the bluebook and know exactly what is in it.



**Renner (below):** Three of our prefabs can be built as fast as one ordinary house.



ternational man who covers the New York-New England area is quite co-operative.

**Prentice:** Does this mean that you don't consider union opposition a serious handicap to the spread of prefabrication?

**Price:** I think it is just the reverse. *The union, in general, has only about 20% of the house-building industry. The rest of it is nonunion. Eighty per cent of houses across the US are*

*not union built. The unions decided that through prefabrication they could get a better hold on the housing field. Our agreement is that our dealers can be union or nonunion, and they are roughly 50%. We have used the unions to get into more Chicago suburbs, and without their help we could not have done it. I called the International, telling them we were meeting resistance in getting building permits, and they got union members to go down and say they wanted us in there. It means work for union men.*

**Are there big variations from district to district**

**in VA and FHA valuations on the same house?**

**Price:** We found there were in the early days, but not now. Today it is very uniform. In fact, in the East our valuations are running higher than our sales prices.

**Anderson:** VA and FHA valuations for Milwaukee and Chicago are higher on the same unit than they are in Des Moines or Mason City, Iowa. Between 10 and 15% higher in Chicago. There are higher costs there for plumbing and all the other things.

**Price:** Plumbing is higher in Chicago because the codes are tougher. Wiring is higher because of the type of conduits used. Our plumbing runs about \$200 less in Iowa than in Chicago. Wiring runs about \$125 less. Field labor costs \$1 less.

**Ott:** In competitive times which will come, I am convinced you will not have project builders; you probably will not have the volume. I am firmly convinced that the prefabricator dealers—through the assistance of the prefabricated manufacturers making them cost conscious, giving them know-how, actually making businessmen out of builders—those dealers of today are going to be the builders of tomorrow if and when a recession should come along. On the whole, you will find the average builder anything but a businessman or a merchandiser. The majority are little builders who don't know their costs. *If there is anything the prefabricator has done to help the builder it is to make him cost-conscious. That is going to be beneficial when the squeeze is on and everybody has to pull in their belt.*

**Can prefabrication save on plumbing and wiring costs?**

**Price:** On plumbing, \$100-\$300.

**Hall:** More than that. We are one of the few companies which prewires all our houses. We ship a house with all the plumbing in it outside city limits where no code prevails. Including installation, it is \$190.

**Ford:** We wire our panels.

**Prentice:** If two of you can get away with it, why can't the rest of you?

**Ford:** We have an underwriter to approve our wired panels when wiring goes out with the house. We have very little trouble.

**Hall:** We have surprisingly little trouble. We thought there would be many areas that would

*continued on page 160*

**Thyer (below at left):** We recognized the importance of good design years ago. That fact put us a little ahead of the parade.



# What's new on the market

—1953 models show progress in product design

Prefabrication's critics have generally had less quarrel with the *process* than the *results*. With good cause they scorned the rows of squat little boxes many prefabers turned out. But today, more and more manufacturers incorporate cleaner lines, color styling, open plans, lower-pitched roofs, overhangs, rear living rooms, big windows, storage walls, built-ins, pass-throughs and other custom-house amenities. Variety is available as never before: big houses, small houses, wide choices of plans and elevations, optional exterior materials. (Leading manufacturers, on these pages, are grouped roughly in order of annual output.)

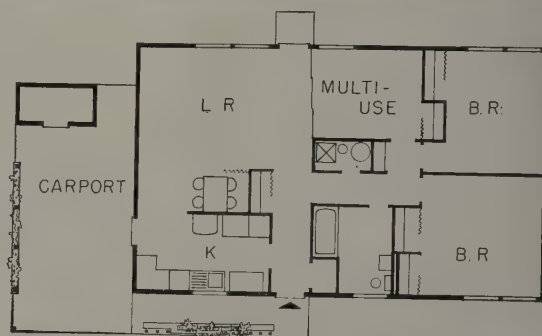


Old models followed boxy conventional lines



New 1953 "Monterey" model (plan below) has rear living room

**National Homes Corp.**, Lafayette, Ind., the industry's biggest producer (1,311 sales in 1947; 10,016 last year; an estimated 11,500 for 1952), has plants in Lafayette and Horseheads, N. Y., 430 dealers scattered nationally. New models, now being demonstrated by dealers, retail for \$7,500-\$15,000. Features: open planning, rear living rooms, multi-purpose rooms, folding doors, double-glazed floor-to-ceiling windows, high strip windows for bedroom privacy, professional color styling, insulated room-size panels of 2 x 2's and 2 x 3's, marine plywood exteriors, laminated fiber board interiors, wall furnace, packaged chimney.



Current "Saratoga" has vent louvers, double glazing



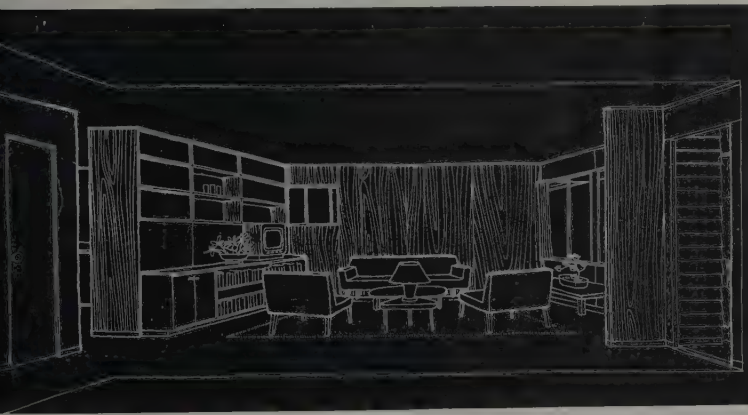
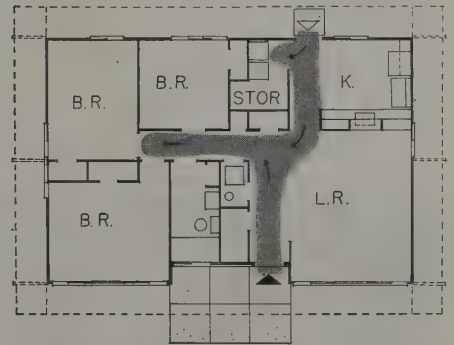
New "Coronet" is asbestos shingled, has siding, glass wall



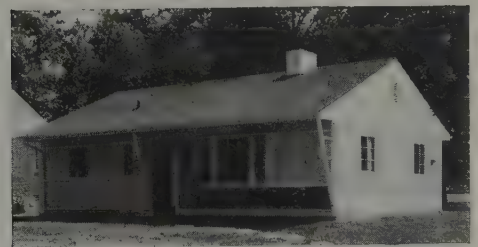


**Gunnison Homes, Inc.**, US Steel subsidiary with an annual output of 7,500 houses, has its plant for wooden houses in New Albany, Ind., is building another to produce steel structures near Harrisburg, Pa. Biggest prefab design news this year is Gunnison's new "Talisman" house by Henry Hill (see cover), which will go into production next year. Designer Hill developed 97 different plan studies within Gunnison's basic 36' x 24' rectangle, came up with a final one (plan, right) that straightens out interior traffic, removes the living room from circulation, creates more usable space in the same floor area.

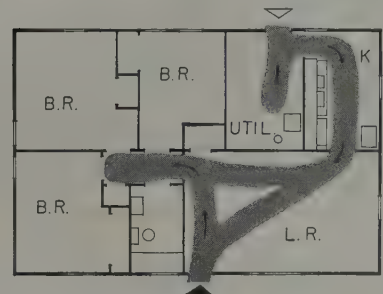
**New Hill house for Gunnison** (plan below) has horizontal lines, wide 3'-2" overhangs, covered entry porch; "hall" and coat closet; small side windows to afford privacy and allow for more flexible furniture placement.



**New living room** is out of path between front door (right), kitchen and bedroom hall (left). Note versatile storage wall at the left.



**Current models**, above average in design, cannot match new plan in circulation, closet and kitchen arrangement.



**Albert Henry Hill**, top-flight San Francisco designer, is one of the first internationally known architects retained by a big prefabricator to create a quantity-produced house. A graduate of California, London and Harvard Universities and author of several books and articles on architecture, Hill has achieved wide recognition for his custom residences and commercial buildings, including prizes in several national competitions.



A "special" by American:  
\$30,000 house in Princeton,  
N.J. by builder T. R. Potts.



Stock models (plan left) built by Allen & Rocks, Forrestville, Md., sold for \$12,500 including lot.

**American Houses, Inc.**, (plants at Allentown, Pa., Lumberton, N. C., Cookeville, Tenn. shipped 1,000 units (its largest project last year) to the Loving-Weaver Co., North Carolina. One of the oldest (1932), American offers a variety of products: although 90% of output is in the under-\$12,000 class, it does many \$25,000-\$35,000 homes, garden apartments, duplexes, barracks and special buildings. In the package are floors, insulated and plywood-sheathed walls, precut roof members or trusses and all miscellaneous materials except masonry, plumbing, heating, wiring, paint. Services include drawings, specifications, technical, advertising aid.



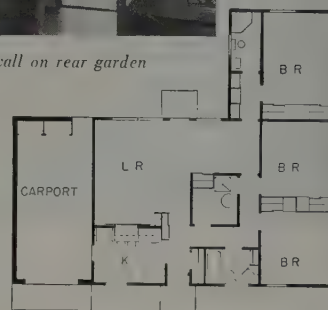
Two-bedroom models, \$8,950 in 1949, are reselling now at \$11,000. Builders: Westmore, Inc., Fairfax, Va.



"195X" research house at Mequon, Wis. (plan, right & photo, p. 93 by architect John Normile. It has open plan, rear living areas and rear bedroom to go on narrow lots.



Living room has glass wall on rear garden



**Harnischfeger Corp.**, Port Washington, Wis. with 175 active dealers east of the Rockies, annual production of 1,100 houses, offers four basic models, three economy models under the "P & H" trademark in the \$7,000-\$12,000 field. Packages, "83%-complete" priced from a low \$2,750 up, include furnace, water heater, package chimney, room-size panels with insulation, doors, windows and screens in, ceiling, roof panels and trusses, box-beam floors. Erection time: 100-160 man-hours. Services include advertising and technical help, financing through firm's acceptance corporation. Two pilot models of advanced design are now under field test.

Current best seller below is also a Normile design







**Newest** contemporary model (plan, below) has window wall, full basement

**Top model** (26% of sales), shown below, has breezeway, garage.



(For another Pease house, see p. 102.)

**Pease Woodwork Co.,** Cincinnati, Ohio, started house production in 1940, sold 1,674 last year to builders and individuals, no franchise required. Variations on four basic one- and two-story plans, conventionally framed, retail for \$7,500-\$20,000.



**Prebuilt custom design**, this Kansas City house is one of many



**Wadsworth Homes, Inc.,** Kansas City, Kans. sells some 1,300 "60% prebuilt" houses a year at all prices to builders in 192 Midwestern cities; 70% are custom orders of builders' own plans, conventionally framed and mass produced in modular sections.

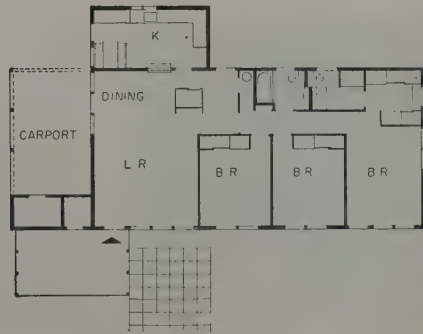


**Right off** assembly line, a Mobilhome is trucked to site, set on foundations . . .

. . . and utilities hooked up, ready for occupancy



**Mobilhome Corp.,** Bakersfield, Calif., carries prefabricating to the fullest degree. This year it trucked 3,000 factory-assembled dwellings (defense housing units at \$6,000-\$30,000, offices and custom homes) from 8 West Coast, 2 Arizona, 3 Midwest plants.



**New** \$19,700-\$21,300 luxury models have new-facing living and bedrooms



**Crawford Corp.** prefabricates some 2,000 houses a year in its Baton Rouge, La. plant, builds many itself (see 1,400-house New Orleans subdivision Sept. '51 issue), also sells \$7,500-\$25,000 houses and multifamily units to dealers through the South.



"Calhoun," \$9,350, is Knox's biggest seller



**Knox Corp.** Thomson, Ga. will produce about 2,000 houses this year in the \$9,750-\$13,500 bracket, build some and sell some to franchised dealers, who handle house-length wall panels with cranes rented from Knox. Firm has own land-planning and legal departments, finance company, is working on a packaged kitchen-bath-heating-air-conditioning core for future houses.



"Groton," 1952 model has greater window area than 1951 model below.



**Pagemaster Homes** (Page & Hill Homes, Inc.), Shakopee, Minn. has been fabricating conventionally framed, architect-designed homes since 1932, ships most to ten states within a 700-mile "economical" trucking radius. Final prices around \$9,000-\$10,000 plus lot. Firm will extend credit until house is under roof.



Old model is conventional in appearance, with window boxes, shutters.



New model has sweeping overhang, glass wall, privacy windows



**Pollman Homes** (Thyer Mfg. Corp.) has five basic floor plans, a Toledo, Ohio plant that manufactures 40 variations with double-wall construction for the North, another plant at Collins, Miss. that makes 40 single-wall types for southern climates.



"Lawrence DeLuxe," with shingled exterior, has several two- and three-bedroom variations.



**General Industries, Inc.**, Fort Wayne, Ind., in its seventh year, manufactures about 1,000 units annually, also licenses SOD Corp., Springfield, Ohio to make its houses. Delivered prices, including lot: \$5,250-\$12,000. (See relocatable house, p. 113.)





"Franklin," older model in "Statesman" line, had 15' long kitchen big enough for dining.



"Courtly" model (plan above) has variety in window sizes, exterior siding

**Modern Homes Corp.** (Lumber Engineering Co., Dearborn, Mich.), designed by architects Morris & Svoboda, are at least 26' deep to permit good interior planning. Next year plans will have clearspan roof trusses, nonbearing interior partitions.



Comparison of early Best house, left, with new model below shows great improvement in design.



Hip-roofed "DeVille," one of Best's stock models, is available with or without basement and attached garage.

**W. G. Best Factory-Built Homes, Inc.,** Peoria, Ill. will ship 750 houses this year in the \$8,000-\$25,000 bracket, is building another plant downstate to offer more variety. Best houses, 75% assembled, are often to-order jobs of builders' own plans.



"House of the Year" (plan, left), designed particularly for retired couples, sells for \$5,200. It is being built in firm's 1,100-house St. Petersburg project.

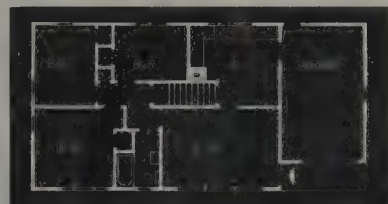


"Stylemaster's" \$3,350 dealer package retails for \$7,625 in St. Petersburg, has 756 sq. ft.



**Florida Builders, Inc.,** St. Petersburg has grown in two years to the position of Florida's biggest low-cost builder. The firm turns out some 800 units a year, sells half to franchised dealers in the state, builds the remainder itself.

"Rancher" houses have three variations, designed for basements. Model shown has 864 sq. ft.



Older model had smaller living-room window, but was generally similar.



**Ford Factory-Built Homes** (Ivon R. Ford Inc.), McDonough, N.Y. average 400-500 houses a year, offers 25 ranch-style and Cape Cod designs, a variety of siding. Dealers can buy heating, plumbing, appliances through factory at jobber's prices.



**New Century Homes, Inc.,** LaFayette, Ind. puts out an average of 600 houses a year, retailing between \$6,300 and \$18,000. It is currently building houses on 14 basic floor plans, distributes them in Indiana and adjoining states, and as far west as Colorado.

**Connett Engineered Homes, Inc.,** St. Joseph, Mo. will produce 500 units this year, aims for 1,200 units in 1953. Its cheapest house retails for \$5,500; it has put out a two-story motel selling at \$35,000. Connett maintains a full-time architectural department and supplies its customers with individually tailored models. The company has 90 dealers through the Midwest. Photo at far left shows part of extensive Connett project.

**Admiral Homes, Inc.,** Pittsburgh, Pa., averages about 500 houses annually in its West Newton plant. Its eight standard models range from \$8,500 to \$13,500, but houses are also done to builders' or owners' specifications. About one-half of production is in a line of 1½ story Cape Cod houses; remainder largely ranch type. Company reports that demand is for larger houses, hip roofs.

**Precision Built Homes, Inc.,** Pikesville, Md. plans to increase production from 400 units in 1952 to 1,000 in 1953. Homebuyers are encouraged to lay their own foundations on their own lots, contract plumbers and electricians and do most of the inside work. Dealer-builders erect the panelized house shells for \$2,990-\$3,850, or complete all work for \$7,890 and \$9,550 plus lot.

**Richmond Builders, Inc.,** Richmond, Ind. has a price range (excluding land) of \$8,000-\$14,000, is building a new factory and expects to increase production from 400 units this year to 600 next year. Its 1953 model will have complete storage walls with shelving. Firm offers construction money with the package. Distribution area is primarily through the Midwest.

**Yetter Homes, Inc.,** Savannah, Ga. has a production capacity of five houses per day, can erect a house in seven hours. Photos (left) are of houses in rental project near Atomic Energy Commission's Savannah River Project, Aiken, S. C. Price range: two-bedroom models \$5,800-\$6,500; three-bedroom models \$6,800-\$7,500 (lot not included). Shipments in 1952: about 500.

**Farwest Homes** (West Coast Mills), Chehalis, Wash. fabricates four basic models and duplexes by designer W. A. Wollander in the \$6,500-\$18,000 field, distributes to builders on the West Coast, in the West and Midwest. Houses have truss roofs, standard double construction in house-length panels. Services include neighborhood, plot and color planning. Plans call for new models soon.

**Place Homes, Inc.,** South Bend, Ind. shipped 260 houses in 1951, estimates 400 for 1952. Selling prices (including lot) are from \$8,950 to \$15,500. Territory: Ind., Mich., Ohio, Ill., and Wis. Place uses double-thickness insulating glass; in the late spring of 1953 plans to introduce low-pitch roofs and exposed beams. Many houses have bath-and-a-half, three or four bedrooms.

Photos: Guill Photo; H. H. Quattlebaum; Richards



**GBH-Way Homes, Inc.,** Walnut, Ill. produces units retailing at \$7,000-\$25,000. In 1951 it shipped approximately 350 one- to four-bedroom homes and has set the same goal for 1952. Designers work year round and plan to introduce a new line by next February.

**Semico, Inc.,** Seney, Mich. manufactures houses, motels, town halls, dental and medical clinics, taverns, churches, store buildings, small industrial plants and farm utility buildings, priced from \$6,000 to \$60,000. Sales in 1951 reached \$500,000; 1952 sales are estimated at \$900,000. Construction utilizes low-grade and short materials.

**E. F. Hodgson Co., Inc.,** Dover, Mass., one of America's first pre-fabricators, does individual planning for each customer; prices range from \$9,000 to \$35,000. Most popular style is a "Colonial ranch house." Latest large project was a group of 30 classrooms for the City of Baltimore. These structures are bolted together, may be easily moved to follow shifting school population.

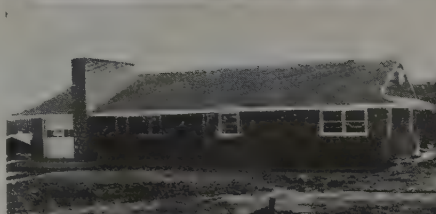
**Maryland Modern Housing Corp.,** Baltimore, during 1951 and 1952 was busy with Navy contracts, produced about 150 civilian houses a year. Shortly, it will be marketing a new ranch-type house. Special features include ceiling-panel radiant hot-water heating remote-control wiring, electrically operated garage door, oak parquet floors bonded to the floor slab.

**Mid-West Fabricators, Inc.,** Janesville, Wis. has produced over 3,000 units during the last 15 years, anticipates an annual production of 100-200 units. Prices range from \$6,800 to \$25,000 and firm will build to any plan customer desires. Shipments are made within 300-mile radius of Janesville plant and all houses are designed to fit the particular site conditions.

**Economy Portable Building Co.,** West Chicago, Ill. in addition to housing specializes in corn cribs, grain bins, hog, sheep and turkey shelters, brooder, poultry and milk houses; also small factories and expandable motels, concession stands and garages. Factory-package prices on houses are from \$2,365 up. Shutters, sub-flooring, oak flooring, stairways, etc. are extra.

**Southwest American Houses, Inc.,** Houston, Tex. restrict practically all sales to builders of sizable projects—e.g., 314 low-cost rental units for a Fort Worth builder, each 729 sq. ft. and renting for \$58 per month; 140 one-family houses to the Aluminum Co. of America. Finished houses sell from \$7,000 to \$12,000. Last year's sales: 750 units; expected this year: about 950.

**Unit Structures, Inc.,** Peshtigo, Wis. currently produces 275 to 300 units per year, concentrates on ranch-style homes. Price range: \$9,500 to \$15,000. Fourteen models are in production, others in planning stage. Construction is exterior wall bearing, facilitating movement of interior panels after houses are closed in. Same set of panels builds any of six possible houses.



Photos: The Fellman Studios; Carl E. Kirk & Co.

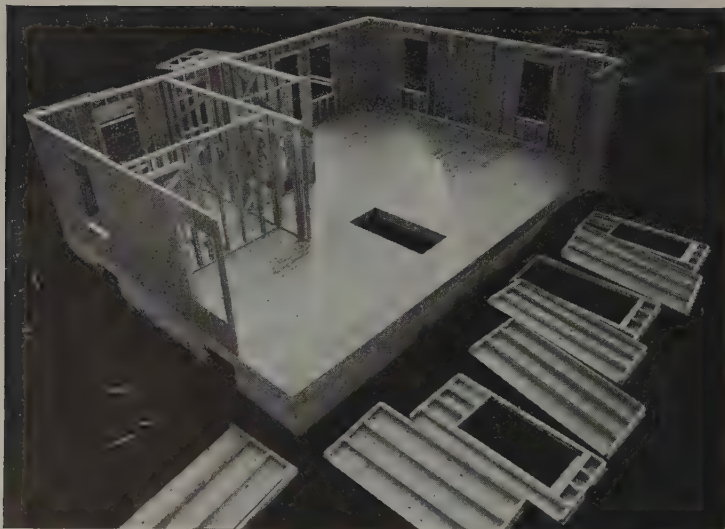


Photo: Pease Woodwork Co.

*Builders like prefabs because shell of house goes up so fast. These plywood sheathed panels are most rudimentary type, give builder wide choice of exterior treatment, permit him to finish interiors conventionally.*

## These builders joined 'em

**They believe prefabrication lets them build more house for less money**

House & Home editors interviewed a number of builders in various parts of the country who are using prefabrication. This is a small sampling of the several thousand who have had experience in buying factory-made houses but what these particular men say should have real significance for other builders.

Well over 5,000 builders throughout the country are now buying prefabricated houses. Most of them are conventional builders who once were suspicious of factory-made houses but tried one or two, then a few more, and decided to stay with them. Many continue to build conventional houses for a higher price bracket along with their prefabs. Here are the experiences some builders have had which are typical of hundreds of others:

### **Even in Chicago. . .**

Everyone knows Chicago is a tough market for new ideas in housing. The rigid codes, inflexible labor restrictions and a supposedly conservative group of buyers have limited the area to masonry houses that seem overpriced when compared with those in other cities. Yet in the past few years several prefabrication firms have been able to introduce their houses.

Among builders who once talked against prefabrication—but are now boosters—is George Nixon, a past president of NAHB. Over a period of 20 years he has built thousands of masonry houses. About two years ago he and his son Bob realized their houses were too high priced for the grown-up children of families which had bought their \$17,000 to \$30,000 houses.

### **White collar market**

"We went to prefabrication," says Bob, "because we wanted a package we could sell to these young white-collar workers in a good neighborhood. With prefabrication we can give a young couple a three-bedroom house with a carport and a larger lot for a considerably lower price than they'd pay for a two-bedroom brick house without carport in our older community."

This year the Nixons bought 160 acres surrounding a small lake (some 20 miles southwest of Chicago) where they will build what may be the finest prefabricated community in the country.



Golf View Hills will consist of 300 houses on 1/4-acre lots. The gently rolling land, the excellent street layout with several small parks and the 34-acre lake should make it a model community. Prices will run from \$12,800 to \$13,500 for houses with three or four bedrooms. A 12' carport closed at the front but opening to the rear will make the 36' house seem 48' wide. The first houses are now under way.

### No goofing off

"There are fewer bottlenecks with this type of construction," Bob Nixon says. "There are no nail shortages, no cabinets or other millwork missing. The sequence of work is better because every man knows the schedule. The definite progression on the job reduces labor costs. There is less chance for the men to goof off or walk up and down the street looking for something. On our earlier prefabs the work was done so well our service calls were one half of those for our conventional houses."

### \$1,800 cheaper than conventionals

In the same suburban area of Chicago, builder Otto Kronenberg and his son Bob also build both conventionals and prefabs. In this family the father pushes prefabs, his son builds conventionals—about 50 of each. They estimate that the same size house costs them \$1,800 more if built of conventional masonry (not veneer). As the size of the house increases, there is even more difference. A four-bedroom conventional house they sell for \$20,000 is only \$13,000 in their four-bedroom prefabricated model. Bob says he has to build his masonry houses two feet longer than a prefab to give the same interior space, because walls and partitions are thicker. Plumbing for the same size houses is \$100 cheaper in the prefabs because plumbers can do the whole job in one operation. Prefabs also save the Kronenbergs money because they do not have to use heat in winter until they are ready to varnish the floors. By that time the regular furnace is operating. "Enclosing the house in one day is a great advantage," says Otto Kronenberg. "There is much less stolen. We finish the whole house in 12 days. Our subs get in and out faster, and they like that. We get our money in three weeks rather than in three months, so we get a fast turnover."

### Prospects from national advertising

One of the greatest dividends Otto Kronenberg says they get from prefabrication is the number of live prospects turned up by national advertising. People who have read magazine advertisements can find him in the classified phone book under the prefabricator's name. "We also benefit by every

model home that any other dealer puts up," he says. "They all help to advertise our house. Dealers in other areas send prospects to me, just as I send them customers who want to live in their districts."

### Volume increased five times

Another firm operating successfully in the Chicago area is Urban & Stephanie, who build in Des Plaines, 15 miles NW of the Loop. As conventional builders they put up six or eight houses a year. Now they do 40 prefabs, aim at one a week.

They credit prefabrication with letting them build throughout the winter. Because they offer their men year-round work, they can hold good men, and are on especially good terms with the unions. They also get lower prices from their subcontractors

*Photo: Thyer Mfg. Corp.*



**Houses that go up fastest are those with full-length panels and complete exteriors. Special equipment is often necessary to handle them.**

because of steady work and standardization. Their plumbing bill is from \$150 to \$200 less than if they were building conventionally, they claim. A large painting contractor gave them a low price because standardization means less supervision and he keeps men working all winter.

### Save purchase time and overhead

Urban & Stephanie are unaffected by fluctuations in materials prices or labor. "Prefabrication lets a builder have more time for land procurement and to make sales," says Urban. "If we built conventionally we'd have to have more people in the office and twice as much capital."

"The greatest asset to a small builder is the public acceptance of nationally advertised products," Stephanie says. "When we advertise, people know the name of our house, even if they never heard of us."

"Being part of a big, national system also lets us put in many items we could not afford to take time to buy if we were small conventional builders. We have joined a huge co-operative for buying."

Both partners attended the accounting course given at the factory and feel they learned a lot from it. They estimate they are selling their houses at about \$1,700 under the competitive market in their area.

### Syracuse has 1,000 prefabs

According to the local FHA office, Syracuse, N. Y., a city of around 220,000, has about 1,000 prefabs put up by some ten builders since the war.

"Every builder in town wants to know about prefabs," says Mario Pizio, who with his brother Fred has built up to 100 houses a year. "They used to laugh at prefabs, but now they come out to see our houses and ask questions about costs and how we save time."

The Pizios' father was a conventional builder for 20 years but the sons shifted to prefabs because they could build faster. They now turn out a house in 30 days instead of 90. With the same number of field personnel they can build far more houses than they used to. They also like the fact that all the major items in the house come on one invoice, which "cuts down terrifically on bookkeeping." They feel they still offer individuality with prefabs.

Their houses sell at \$7,000-\$10,000. They are just starting a new 50-acre tract where expandable-attic houses will sell for \$7,000.

### Less woman trouble

Builder Harry G. Herrmann of Syracuse, an old-time conventional builder, likes prefabrication because it not only lets him build faster but saves him a lot of trouble with women buyers who keep changing their minds as a house is going up. "The prefab builder is off the hook because when a woman says she wants a window there instead of here, the builder can say the house comes only one way and it's too late to change it."

Herrmann builds from 10 to 25 houses a year, has an informal arrangement with two other builders who put up the same kind of house as to division of territory. Most of his houses sell for under \$10,000.

### Prefabs tailored to order

An opposite approach to changes is taken by builder F. P. Arnold of Syracuse who averages 25 to 30 prefabricated houses a year. He lets the customer make as many changes as he wants and charges him accordingly, adapting the factory-made panels and parts to his buyer's wishes. Arnold believes prefabrication permits him to save his buyers about 10% on the cost of the house. A valuable service he gets from the factory is that it supplies him with the FHA forms and cost breakdowns, so red tape is greatly reduced.

Arnold was the first prefabricator in Syracuse, having started using such houses in 1940. He believes one of the greatest advantages in prefabs is that a builder knows

his costs and can sell to his buyers from a catalogue. This saves him the expense of building a model house.

#### **It looks so easy. . .**

One trouble with prefabrication is that it looks so easy that everyone wants to get in on the act. In Syracuse the Pizio brothers have their masonrywork done by the Celio brothers. After seeing how fast a prefab house went up, the Celios decided last spring to try it themselves and they are now builders in their own right. They built some 20 houses up to October and are planning 50 more in the \$7,500 to \$9,500 price range.

#### **The truck backs up**

Biggest prefab builder in Syracuse is Howard D. Clark, active in building and real estate there for 40 years. He got into the prefabrication business after the war when he was mobbed with veterans looking for houses. Since then he has built about 300 prefabs.

He now builds both conventionals and prefabs, has three different projects under way, and has finished about 120 houses this year. Prices range from \$9,000 to \$16,000. "Originally we got our houses by rail and there was a lot of damage. Today it's an entirely different story because the truck backs right up to our site."

#### **Sold in an hour and a half**

Typical of many small builders who have tried prefabrication is Robert Abercrombie of Cincinnati. He used to build three or four houses a year, now builds 12, with a working capital of only \$7,500. He figures prefabrication lets him save about \$500 a house and he takes a profit on three times as many houses as he used to.

Says Abercrombie, "I can build prefabricated homes all year round. All I need is two or three days above 20° in winter to get started. Then I roof in quickly."

Builder Clifford Knopf of Louisville, Ky. builds about 100 prefabs a year, figures he needs \$200,000 working capital. In 1943 he sold out a 23-house subdivision in 11½ hours, was so encouraged with this reaction to prefabricated houses he went on to develop a larger project where he has sold 250. He has 450 more lots near a large, new factory, is optimistic about future sales. Knopf believes he is about \$1,000 under the sale price of his most competitive conventional builder. He grosses 9%, nets 5% on his houses.

Also in Louisville is builder T. N. Ryan, Jr., who builds 12 to 15 houses a year on scattered lots. "Knowing all your costs in advance is valuable," Ryan says. "A conventional builder can't tell in a fluctuating

market what's going to happen to costs and availability, but I can. I also like the speed of erection and ease of turning over my money. I require only \$7,000 working capital." He has needed a construction loan only twice when he had two houses under way at once.

Ryan admits he cannot compete with what he calls the small "tepee" builder but claims he is from \$1,000 to \$2,500 under conventional builders in the \$10,000 to \$13,000 market (plus land). His profits run to 10 or 11%.

#### **Full value from FHA**

In Lexington, Ky., C. A. Coleman has been building prefabricated houses since 1936. He now builds from 75 to 100 a year, puts brick veneer on many. With an eight-man crew he gets a house up in one day, finishes it in three weeks. One thing he likes about his houses is that "FHA or VA appraise them at full value, or near it."

Resale values are good, too, he finds. "Two or three years ago I was doubtful of resale values, but I am no longer. Forty or 50 of my houses have been resold at a profit up to \$1,500. Ten of my buyers have invested in extra houses which they rent for income.

#### **Structurally better**

Karl Moldenhauer of E. H. Moldenhauer & Sons of Cedarburg, Wis. took a year to sell himself on prefabrication. But once he switched he found he could double his production of smaller houses while he continues to build larger conventional homes and some commercial buildings. Prefabs are 20% cheaper than conventional houses, he finds.

Says Moldenhauer: "You can't get close to these houses in value received with conventional construction. They are low priced and high speed." He sells a 674 sq. ft. house with lot for \$6,999. At his 50-house project in Grafton, Wis., the factory helped with construction money, also helped him place his mortgages.

"Conventional builders think of prefabs as cardboard boxes," he says. "Actually, our houses are so strong and their box-beam floor so rigid they have withstood floods and washouts far better than conventional houses." Visitors have mistaken his conventional houses for prefabs, and his prefabs for conventionals.

#### **Mechanics and subs like them**

"Our mechanics like to work on a prefab house," says builder A. S. Mizell of Yonkers, N.Y. "It's clean, it's fast and it's simple. There are no accidents on the site because there are no hazardous conditions. They also like it because layoffs are at

a minimum; bad weather doesn't hold us up. We run a full union operation.

"The subs like it too," Mizell continued. "Everything is standardized and the plumbers, heating contractors and electrician don't wait for anything. They get in and get out fast. In fact the plumber has cut his price 10 or 15% because he saves that much over ordinary jobs.

*Photo: Precision Built*



*Some firms ship panels complete with windows and doors, insulation and interior surfacing.*

"In our three-bedroom models at around \$12,000 we are about \$3,000 under the competition in this area. We build a few for \$20,000 and there we are \$5,000 to \$6,000 under conventional builders.

"We've built about 30 houses in a year and the only thing that is holding us back is finding the right land. Right now I've got over 40 deposits from people who are begging for houses. They'll live anywhere in Westchester County."

Prefabs on a much larger scale are being built by Ignatius Monforte, who put up nearly 300 in one area of Yonkers. He also has built a group of ten in Hartsdale that range from \$32,000 to \$44,000 and a few in Mt. Kisco at \$22,000 to \$27,000.

Builders had difficulty getting the first prefabricated houses introduced in Yonkers because the local building department would not approve them. This obstacle was overcome although one make of house is still barred because neighbors objected to the exterior when a few were built.

Why builders with a rush job to do like prefabrication is illustrated by the Klippen-Holm firm of Duluth, which had to build 100 houses for a mining company in Ishpeming, Mich. With 36 carpenters they got the 100 houses roughed in during ten weeks, which they thought was good speed considering the handicap of 41 days of rain and two short strikes. The same prefabrication firm supplied material for 33 houses and six school buildings for a rush job in Babbit and Beaver Bay, Minn., last summer and met a very tight production schedule which they believe could not have been achieved with conventional methods.



# Financing the prefabricated house

**Manufacturer help shoulder the financing load**

**and lenders grow more optimistic**

A few years back prefabs meant money troubles. Many bankers turned away from them as a poor risk. Due to improved design, better construction and increased public acceptance, much of the resistance has broken down.

Prefab loans are still tough to get in some areas such as Texas and the West Coast (California money is also tight for conventional houses today). Elsewhere, many lenders have reversed themselves and now face the prefab builder with a more encouraging attitude. A second factor also eases financing problems: many manufacturers pave the way for loans.

## **Manufacturers give help**

Though prefab manufacturers prefer that the builder solve his own money problems, they provide their dealers with many financial aids. Typical is the help given builders by a Midwest firm which:

1. Furnishes FHA and VA approved blueprints, complete specifications and other technical data required.
2. Supplies No. 2005 forms already filled out and trains representatives to help dealers complete other loan papers.
3. Has representatives help the builder figure his cost and profit breakdown for submission to FHA or VA.
4. Helps the builder get local FHA evaluation on house and land and get loans from local lenders.

This financial spadework greatly lessens the time and red tape of financing.

## **Over the first hurdles**

Not only do some firms run interference for the builder in getting loans, they will also extend a line of credit to builders. The Thyer Manufacturing Corp. offers 50-day interim financing at no charge. To get the house shipped the builder sends the manufacturer: 1) two signed copies of the order; 2) a \$200 deposit per house; 3) a letter from a lending institution saying it will honor the manufacturer's invoice as soon as the house is under roof.

Similarly, the Harnischfeger Corp.'s own acceptance subsidiary provides interim financing when local banks are cool to prefab builders. The acceptance company advances construction money and helps place mortgages for builders.

Another firm, the Knox Corp., "allows deferment of payment for the house package." If also needed, it will provide additional construction money at second and final inspections.

## **No waiting for mortgage shopping**

Several firms have their own acceptance companies which, when necessary, will handle the entire financing deal. A case in point is the largest manufacturer in the field—National Homes. Its acceptance company can make VA and FHA approved loans and has already handled more than \$90 million in mortgages on National houses. But the acceptance company is no benevolent association. Here is how it works:

First the builder must sell the house. Then he sends all sales and FHA papers straight to National. The house is usually shipped in two or three weeks and the builder can count on construction advances (at 5% interest plus 2½% service fee). Some builders turn these advances into a revolving fund for starting more houses. It frees the builder's own capital for buying and developing more land.

If the occasion warrants, the acceptance corporation also makes loans to dealers on FHA operative builder commitments. There is not too much of this type of financing; in most cases the dealer is sold ahead and the mortgage carries the owner's name.

Although the amount of financing aid varies with the manufacturer there is a trend to increased help for builder-dealers. A few companies, such as General Industries, have acceptance subsidiaries which will also finance a "limited amount of speculative building by properly qualified builders; terms are by individual negotiation." Several other companies now plan to form acceptance subsidiaries as a result of their dealers' need for a financing plan.

## **But what about the lenders?**

Although financing plans help close the money gap, the inevitable mortgage must, in most cases, be placed outside. Today, many lenders like prefabrication because of these advantages cited by the *National Savings and Loan Journal* (Apr. '52):

►The lender knows in advance what the finished house will be like,



**Better designed houses** such as this glass-ended model, have eased financial problems of builders. By Roll-A-Way Homes Div. of Nicoll Lumber Co., it has 880 sq. ft., two bedrooms, a convertible study, fireplace. The price: \$8,750.

►He can closely determine beforehand what final costs will be; there is little chance of costs getting out of hand.

►The lender knows approximately how long it will take to finish the houses.

"These assurances take much of the risk out of construction lending under today's uncertain market conditions," the *Journal* concludes.

The speed of construction with prefab houses is a big factor when a builder needs interim financing. Today a Syracuse, N. Y. banker says, "We don't have our money tied up very long compared to conventional houses." A Midwestern banker puts it another way. Says C. E. Kelly, vice president of the Lincoln National Bank of Fort Wayne, Ind., "The faster the rollover (of money) the lower the risk."

## **No guesswork on quality**

W. C. Rainford, president of Mercantile Mortgage Co. of Granite City, Ill. says: "The investor is offered a product of known quality which can be identified by a typical plan, to be constructed in most cases by a builder of known experience. . . . Most large investors will purchase mortgage loans on prefabricated projects but they occasionally set up certain architectural requirements of their own depending on each project." Rainford has directed over 50% of his firm's postwar volume of new construction financing to prefabricated houses.

In the final analysis financing is no different than for conventional houses. As one banker puts it: "Some builders do a good job with prefabs, others get sloppy."

# Houses in a hurry

## How prefabrication works

When a prefab builder was recently asked why he no longer built conventional houses he chortled and said, "Why I'd have to go back to work."

Herein may lie the biggest appeal in prefabrication. The builder lets the factory do the work. Another builder of prefab houses said, "The factory is my biggest subcontractor."

The factory is certainly the payoff. When a prefabrication organization is trying to sign up an especially capable builder the common practice is to invite him to see the plant. To see the production lines of an efficient factory is a convincing experience.

### Why factory production is cheaper than field production

1. Wage rates are low—often \$1 per hour less in the plant than in the field. Hourly wages in some big plants average about \$1.50.
2. Production is high. Men specialize in one job, and with the help of machinery, turn out wall assemblies so rapidly that visiting builders blink with amazement. "It costs us only a dollar to hang a door," says one prefabber. In one plant, production is so high that only 6% of the sales price of the package is for labor.
3. Mass purchasing saves money. Builders envy the Levitts their enormous purchasing power, yet one big prefabber alone buys for nearly three times as many houses per year as do the Levitts. These savings mean low package costs to the builder.

### How houses are factory-produced

Buyers of prefabricated houses are usually less interested in details of how parts are made than in the results. But one feature that all visitors note with interest is the high quality of lumber they see. In the best plants all the lumber is No. 1—"much better than I use," most builders are forced to admit. The factories use good lumber because: 1) in fast, large-scale production they cannot bother with anything but top grades, 2) inferior grades do not line up properly in precision jigs, and 3) prefab houses have had one strike against them in many towns and manufacturers use the best of materials to overcome prejudice.

In fact, construction is done with so much care that a trip to one of the better factories is enough to convince a skeptical building inspector that prefabrication may turn out a sounder house than many he has permitted. A factory producing thousands of houses cannot take chances with anything that may kick back. Top-grade materials of all kinds may be cheaper for the factory to buy than an average builder pays for second grades.

### Flexibility is the keynote

The wall panel is the most common element of prefabrication, as the photographs on these pages indicate. A builder can buy almost any kind of panel he wishes. The simplest is a 2' x 4' stud wall frame, 4' wide and 8' high with plywood sheathing on one side. The most complex is a considerably larger section (often the whole side of a house) which has doors and windows installed, is insulated, has painted wallboard on the inside and sheathing building paper and siding on the exterior.

Between these two extremes are many variations. If a builder wants to buy panels which are sheathed and to which he applies conventional plaster inside and brick veneer outside he can find plenty of factories to give him what he wants. If he wants to do his own dry-wall construction he can buy plasterboard through



Modern plants such as this 600,000 sq. ft factory can produce more than 40 prefabs a day.



Automatic machines drill all bolt holes required in a wall panel in one operation. Production line, seen in the background speeds completion of panels.

the factory or from his local supplier. He can buy floor and roof panels and trusses from a plant or make his own. He can buy almost any kind of siding he wishes on or off the panels. In short, the day of the "prefabricated look" is gone because prefabs now look like conventional houses.

### Distribution: the dealer setup

Some firms sell only to authorized builders, some sell to any builder in quantity and some sell to individuals. The little builder can always find a plant that will cater to his needs, regardless of how little he wants.

Some bigger firms fix a minimum quota per dealer and are seldom interested in one who orders less than 12 houses a year. One firm requires a new dealer to have at least \$15,000 working capital and screens prospects thoroughly beforehand.

Most firms ask the builder to visit the plant to talk things over before he gets his franchise. A company field man instructs him in putting up his first house and later the field man supplies help when needed. Companies often help with land planning, share advertising bills and otherwise pitch in when the builder calls for miscellaneous advice. Manufacturers will even help to overcome prejudices in local building restrictions.



### Truck vs. rail

Most firms prefer not to ship outside of a 500-mile radius of their plants, as trucking costs are high for longer hauls. The builder pays shipping which runs to about a dollar per mile per house.

Though cheaper, rail delivery has two drawbacks: delivery schedules are uncertain (trucks can be depended upon to arrive at a given time); damages in rail shipment are apt to be higher than by truck because of the extra handling at the destination. Most firms use the railroads for long hauls. An Ohio firm for example uses trucks up to 300 miles, rail beyond that. It would cost \$520 to truck a house 631 miles to Norfolk, Va. By rail it is \$350 *plus* \$75 for trucking.

### Speedy erection

Tight scheduling by the manufacturer permits the dealer to know the exact day when the house will arrive, and in time for the erection crew to start work at 8 A.M. The truck backs right up to the foundation and panels are put up as they are unloaded. In case of rain it may have to stay over a day.

Most firms figure their houses can be put up in less than a day's time with six to eight men; by evening the house is under lock and key. An average crew for a moderate-size operation is four laborers and three carpenters. Five or six men can complete three houses a month.

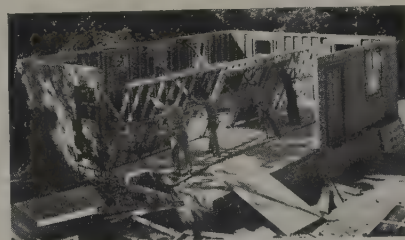
On-site labor varies from 300 man-hours for an 800 sq. ft. house to 800 for a two-story, 1,600 sq. ft. model according to one firm. This includes finishing the interior plus grading, does not include plumbing, heating, wiring which is usually subbed.

Manufacturers stress repeatedly that the most important prerequisite for prefab houses is an *absolutely level* foundation or slab. They shun hand levels and urge builders to use a transit.

If the slab is off  $\frac{1}{2}$ " panels will not line up, framing will go awry, and the entire house will be distorted. Once the slab is right, "you can throw away your level," says a Syracuse builder. "Everything goes up like clockwork."



**Bare slab at 8:00 a. m.** Trailer parks at one corner, delivers wall panels which go up so rapidly that by late afternoon the house is completely enclosed, roofed and under lock and key.



**Walls are up at 11 a. m.** Interior wall frames, often shipped in full-length sections, are easily tilted into place.



**Roof goes on at 3 p. m.** Six to eight men can erect shell of an average house in less than a day. Most firms supply roof trusses or precut rafters.



In most factories precut framing members are assembled on precision jigs. Then plywood sheathing is applied to one side, insulation fastened in place and interior wallboard is glued and/or nailed in place. Doors and windows are installed with frames and hardware. Each process along this line takes four minutes.

# What does a prefab cost?

**Top question with builders considering prefabs is:**

**Can I build cheaper than I can buy? Many answer emphatically: No!**

Builders point out that the package supplied by prefabbers is only 20 to 30% of their total cost and that the cheapest part of any house is the exterior shell.

Only the builder himself knows his true costs and small profits he can make in various items, so by comparison builders can learn a lot by analyzing carefully the prefab cost figures below. They are estimated for a two-bedroom, 700 sq. ft. house and a three-bedroom, 845 sq. ft. model erected by Price & Price of Lafayette, Ind. The Price brothers of National Homes Corp. own a building subsidiary and offer their building costs to their dealers who can then make comparisons. The figures, says James Price, represent neither the maximum nor minimum in building efficiency, are just a good average.

## Prefab vs. conventional

A Michigan prefab builder sells a two-bedroom, 1,104 sq. ft. model with attached garage for \$11,054 (his costs, including land, were \$9,613). Compare that with the three-bedroom, 1,000 sq. ft. house plus attached garage being built in Southwood at Syosset, Long Island and selling for \$9,990. These are approximately the same houses Levitt is building in Pennsylvania, but without benefit of Levitt-size mass production.

Morton Brothers, builders on Long Island, would give prefabbers a run for their money with two models they offer. One, a three-bedroom, 1,095 sq. ft. house with basement, two baths and attached garage, sells for \$11,999. Another, a three-bedroom, 900 sq. ft. model with three bedrooms, basement and attached garage, sells for \$9,999.

## How much to build bigger prefabs?

A builder in the Detroit area who erected a three-bedroom, 1,254 sq. ft. perimeter-heated slab house figured his costs at \$9,747, not including land. His package consisted of practically everything but the plumbing, wiring and heating, and cost him \$4,105. Biggest cost difference between this house and either of the smaller National Homes analyzed at left was in the price of the package. But more labor on the 1,245 sq. ft. house, higher costs for excavation, more plumbing and heating account for the higher total.

## Range of prefab packages

Packages of various prefabbers range in price from under \$2,500 to over \$5,000. Some offer a rigid, standard package. Others permit the widest flexibility short of allowing the builder to design the house himself. Some will provide girder, floor joists and flooring if the house is to have a basement. Many make available at extra cost such items as interior trim, flooring, heating, cabinets and screens, thus offer the builder more economy.

One manufacturer can supply a two-bedroom, 721 sq. ft. house for \$2,643, another two-bedroom, 896 sq. ft. model for \$3,043, a three-bedroom, 978 sq. ft. house for \$3,305, a two-bedroom and attached garage model of 1,254 sq. ft. for \$4,105.

## How much does a duplex cost?

The builder who has considered building rental housing may take a second look after seeing the package prices on basement-less duplex apartments. The price for a two-unit, six-bedroom, 72' x 24' model of one prefabber is \$5,685. Included in the package are: single hardwood floors, plywood for kitchens, bathrooms and utility room, 2" x 8" sill plate, 6" x 8" wood girder, joists, exterior walls, windows installed, doors hung, gable panels, vertical siding applied over building paper and prime painted, shingles for roofing, window panels and shutters, exterior trim, interior partitions, interior trim, sliding doors for closets, shelves for linen closets, poles and cleats for other closets, ceiling and floor and roof insulation, interior wall and ceiling materials, all framing lumber No. 2 or better yellow pine, all rough and finish nails, rough and finish hardware, a set of five blueprints.

	Two B.R. 700 sq. ft.	Three B.R. 845 sq. ft.
House package .....	\$2,610.00	\$3,019.00
Transportation .....	30.25	30.25
Staking out and bulldozing .....	35.87	35.82
Foundation materials and labor .....	223.47	286.23
Slab-floor materials .....	166.38	206.47
Slab-floor labor .....	56.93	72.99
Erection .....	379.42	452.38

### Breakdown of erection for labor for two-B.R. house

	Hrs.	
Rough labor..	13.2	\$ 22.11
Carpenter ....	38.0	92.15
Exterior trim .....	Carpenter ....	18.2 44.14
Shingle roof .....	Carpenter ....	15.4 37.35
Setting partitions ..	Carpenter ....	15.4 37.35
Interior trim .....	Carpenter ....	44.0 106.70
Install chimney ....	Carpenter ....	2.9 7.03
	Rough labor ..	1.1 1.84
Insulating attic ....	Carpenter ....	6.6 16.01
	Rough labor..	1.1 1.84
Cleaning inside ...	Rough labor..	7.7 12.90
	163.6	379.42

Chimney .....	50.00	50.00
Plumbing, including fixtures, H.W.H., permits, water to street .....	600.00	637.00
Sewer .....	80.00	80.00
Electrical wiring and fixtures .....	168.50	188.50
Heater (included in cost of package) 220 gal. tank, 100 gal. fuel tank, venting .....	92.00	96.00
Gutters and downspouts .....	56.00	65.00
Grading, walks, stoops, seeding, etc. ....	138.34	147.01
Painting (two exterior coats) .....	89.50	100.30
Miscellaneous hauling, small tools, trucks, call backs .....	85.00	86.50
Survey, utility deposits, building permits .....	30.00	30.00
Direct costs: insurance, taxes, social security .....	129.73	157.10
Overhead .....	502.14	574.06
Financing expenses .....	319.40	326.90
TOTAL COST (house and loan costs) .....	\$5,842.93	\$6,641.51



# Fort Wayne

## boomtown for prefabs

Builders who want to know what prefabrication does to a community can find out by taking a look at Fort Wayne, Ind.

This city of 130,000 is typical of the Midwest where prefabrication got a good start before the war and has prospered. It offers builders a cross-section of what may happen anywhere.

Since the war, prefabricated houses have taken over the biggest share of the new house market. In houses under \$12,000 the prefabricator has a virtual monopoly. About one family in ten now lives in a prefabricated or pre-cut house; the proportion rises steadily.

This year about 750 prefabs will be built. About half sold for less than \$11,000; most of the others are only a few thousand more.

### It happened in Fort Wayne, will it happen in your town?

To a visitor driving about the pleasant residential districts of Fort Wayne a surprising sight is prefabricated houses in practically every neighborhood. These prefabs need to be pointed out by an expert because most of them fit unobtrusively among the older houses. *There are no restrictions on where prefabs may be built.* If these one-story houses occasionally seem out of place among their two-story neighbors it is not because they are prefabricated but only because they are generally smaller.

Prefabrication is so completely accepted by most people in Fort Wayne that as a construction method it is no longer news. A builder putting up \$10,000 to \$12,000 houses in the old-fashioned way (taking a month or more to get his house framed and under roof) would attract more attention and comment than a prefabricator.

Factory-built houses are so commonplace that many buyers of houses in the \$20,000-or-over bracket have had de luxe or oversize prefabs built to their requirements. Prefabs include apartment houses and even churches.

It is also significant that there are houses made by practically every prefabrication firm. After one or two firms broke the ice, others flocked in.

Despite all the prefabrication, however, two thirds of the 26-member NAHB chapter still do nothing but conventional building. Several of the nine prefabricators still do some conventional building.

Why haven't more conventional builders hopped onto the prefab bandwagon? "Vanity and profit," says one prefabricator. "Taste and value," retorts a conventional builder.

### "It must be the product . . ."

In Fort Wayne prefabrication has snowballed since the war. Says William B. F. Hall, president of General Industries Inc., the city's one prefabricated house manufacturer: "First one man gets into the business, gets cold water dashed into his face by the building commissioner or anyone else who has to make a decision about something new. The builder sticks to it. The public gets conditioned to the word 'prefab.' The public buys when they see the house is no freak. Then the conventional builder is impressed. First he's

*The \$19,000 four-bedroom National house (top) built by Ralph Shirmeyer is next door to another expansive but conventionally built Shirmeyer house. He believes that each one enhances the other.*

*Another big prefabricated house is this Pollman-designed model (center) produced by Thyer Manufacturing Corp. Builder Fred Federspiel made it look even bigger than it is by adding a three-car garage.*

*Typical of the small, moderate-priced prefabs that appear on single lots and in large projects is the New Century house (below).*





Row of Gunnison houses gains some variety from different colored roofs, changes in type and color of siding. Looking at these houses Gunnison dealer Hamilton Hunter says that prefabrication need not be disguised.



Four-family apartment house sponsored and financed through George Poag, who promoted many such Peaseway duplex and "fourplex" apartments in Anthony Wayne Village and its Village Colony addition.

Still in good shape after 15 years of hard use, three-room, low-cost prefabs (below) were built in 1937 by the Fort Wayne housing authority. Early use of plywood construction helped to overcome invariable early prejudice against prefabs.



curious. He says, 'My gosh, if so-and-so can make money on a prefab, maybe I'd better look into it.' Then another builder takes the step—perhaps he's not even so talented as the fellows who tried it before him. But it comes easy. Then all the rest say, 'It can't be the man, it must be the product.'"

At least one prefab builder thinks it is debatable that prefabs can be built any more economically than conventional homes. "Any economy," says builder Fred Federspiel, "stems largely from the fact that you can get a prefab roof on quickly."

#### Why Fort Wayne went the prefab way

**1.** Proximity to the prefab plants. One big cost item in prefabrication is transportation. The Middle West is the prefab belt where the greatest concentration of factories occurs (*see map, p. 91*), so transportation to nearby cities such as Fort Wayne is cheap. National and Gunnison, two of the giants, have plants in Indiana. National, in its Lafayette plant alone, produces 40 prefab houses a day.

**2.** The G.I. market. As in other cities, Fort Wayne had to provide housing for returning servicemen with little capital and a high family potential. At a time when there was no down payment for G.I.'s, prefabs were available.

**3.** Priorities. In 1946 and 1947 prefab manufacturers were granted materials priorities by the National Housing Authority. That gave them a big jump on conventional builders.

**4.** High per-capita wealth and purchasing power. The city has diversified industry (air-conditioning and airplane parts, television and trucks, motors and mining machinery), is in rich farm country. Fort Wayne's effective buying income per family at \$6,875 tops the rest of Indiana today. Every year since 1946 over 1,500 building permits were issued (top year: 1946 with 2,046).

**5.** A good building code. Fort Wayne's model code works no hardship on the prefabbers. One dealer says: "It is a truism that the worse a community's building code is, the higher up the FHA valuation goes. Prefab builders get a good break from the city's code and good valuations from the FHA office."

**6.** A fair shake from FHA and VA. Says Bill Hall: "There wasn't anything particularly different about FHA and VA in Indiana except that they were more familiar with and educated to the early efforts of prefabbers—Gunnison started down in New Albany, for instance." Gunnison dealer Hamilton Hunter says: "The government favors prefabs in the low-priced field. Officials think the buyer gets more for his dollar."





*Not uncommon are prefabricated houses among conventionals. Small house is two-bedroom General Industries model.*



*Floor-to-ceiling window, brick front, wide overhang mark this General Industries house, which is set well back from the street, framed by tall trees.*

**7. Dealer service.** Hunter attributes a large measure of the success of prefab builders to good public relations. "The big dealers always came back to right any wrong for the customer."

**8. Mortgage financing.** The Lincoln National Life Insurance Co. (main office, Fort Wayne) made some of the first mortgage loans on prefabs. Insurance companies and banks thought the mortgage risk was small in this community of solid, thrifty citizens with a high health, education and intelligence record. Progressive mortgage bankers, particularly in Fort Wayne's Lincoln National Bank, learned building costs thoroughly. "That recognition by the leading lending institutions," said one dealer, "went far to promote moderate-cost housing. It helped give the veteran a home." Charles E. Kelly, vice president of the Lincoln National Bank, says banks like to handle interim financing of prefabs because "the market gamble is compressed into a shorter period." "Financing is most important," says builder R. C. Metcalfe. "I am selling a mortgage as much as I am selling a home."

### **Prefab pioneers in Fort Wayne**

As most prefab builders will agree, it was necessary to educate the homebuyer and to convince real estate interests of the soundness of prefabrication. Three pioneers did the job in Fort Wayne.

*William B. F. Hall.* In 1938 he chairmanned the Fort Wayne Housing Authority, which built 50 three-room dwellings of prefabricated plywood panels (with WPA labor in an otherwise idle plant).

*George A. Poag,* builder and realtor. With more vision and aggression than capital he virtually re-established the building industry in his home town during the depression. He bought pre-cut or partially fabricated materials from Pease Woodwork Co. and built moderate-priced homes.

*Builder Ralph L. Shirmeyer.* He started building prefabs before the war, took a National dealership later and built it big. He is now one of National's biggest dealers.

### **What the conventional builders think**

Otto Nord, president of the Home Builders Association of Fort Wayne, thinks his houses (custom-built, up to \$60,000) will still be standing when prefabs are torn down, but he admits if it were not prefabs, "many young people wouldn't have homes." His neighbor, builder R. C. Metcalfe, thinks Nord and other top-flight builders like him could help the prefab industry. But Nord says, "I'm busy now as a conventional builder. If things get tough in higher-priced homes, I can always get the prefab homes to build if I want to."

John B. Worthman, another high-quality conventional builder whose efficiently organized building company uses four basic plans tailored to a customer's needs and wants, says simply that he likes conventional building.

### **To each his own**

Each type of builder tacitly, if not verbally, will admit there is a place for both prefabricated and conventional homes in Fort Wayne as elsewhere.

The prefab builder, for his part, is in the business because:

► He can build more homes and make money. Most prefabbers shoot for 10% profit, settle in some cases for only 6%. Ralph Shirmeyer has built over 200 houses every year since 1946, estimates that his organization would not build more than 40 conventional homes per year if it were to shift back to conventional building only.

► He ties up less of his working capital. Most dealers estimate that they require only about one fourth of the capital to stay in business as a prefabbers.

► He does not take up as much of his time. The routine of prefab building promotes efficient systematic procedure.

The conventional builder, for his part, is sticking to his last doing because: a) he likes it; b) he makes money at it; c) he fills the demand for homes over \$25,000 where "the buyer's personal tastes must be met." Prefabbers agree that prefab building is generally limited to the under- \$25,000 price tag.

### **Is the customer satisfied?**

To any question about how prefab home dwellers feel about their homes, prefab dealers answer in terms of sales. "They buy 'em," says one, "and they're still buying." Thyer-dealer Fred Federspiel cites the cases of two of his customers: "One young man bought a two-bedroom model, sold it and bought a three-bedroom model. Another man who bought one of my homes added many extras and sold it himself at a clear profit of \$1,800." Federspiel is now building him another. The family that owns its second prefabricated home is not a rarity in Fort Wayne.

# Prefabs fill special needs

**Factory-made parts are used for structures as small as brooder houses  
and as big as two-story apartments**

Prefabricators are covering an increasingly wide range of building needs and territories. They have found a ready market:

1. where houses must be built quickly (flood disaster or critical defense areas), for industrial employees;
2. where labor is in short supply;
3. where low cost is a primary consideration.

Their products include grain bins, incubators, week-end cottages, concession stands, milk houses, corn cribs, motels, schools, garages, medical and dental clinics, light industrial buildings, kennels, utility houses, bunk houses, field offices, recreation halls, warehouses, company rental dwellings.

Prefabbers are building for large-scale developments, public housing, military housing, defense-area housing, custom-quality and low-cost housing. They build for the industrial and farm markets here and in Canada, Alaska and abroad.

## **Volume production, volume building**

In one of the first projects under the Wherry Act, American Houses showed what prefabrication could do to produce military rental housing fast: it supplied 1,000 units in a \$10 million project at Fort Bragg, N. C.—in a year's time. So successful was the project that American got another 1,000-unit order for a second section. The company has built 1,700 programmed units so far this year, expects to produce another 700 in '52.

Knox Corp. has concentrated on large subdivisions of government-programmed housing at the AEC Savannah River hydrogen plant and in several other critical defense areas. Range of prices: \$9,750-\$15,000—with strong emphasis on houses below \$13,000. National and Gunnison also ship into the fast-growing Savannah River area.

Precision Built Homes Inc. is another example of a big project prefabricator. After concentrating on several thousand dwelling units in its own projects, it offered the merchant builder prefab homes this year for the first time.

Thyer Manufacturing Corp. is supplying 225 units of Title IX homes in Camden, Ark. J. A. Jones, the builder, decided to use prefabs because of speed of erection and economy. Thyer has another 143 units tagged for Hampton, Va.

All told, prefabbers supplied better than 6,000 homes for critical defense areas. PHMI says prefabbers supplied almost 20% of the total number of houses that have been programmed for defense areas thus far.

## **Military housing—PX to hospital**

American is the biggest producer of shelter for military personnel. Gunnison can produce insulated steel shelters versatile enough to be used as barracks, mess halls, administration buildings. Variations can be used for field hospitals. Total shipping weight of one of the units is 13.5 tons. Two advantages: the buildings resist termites and fire.

## **Public housing—savings insufficient?**

Prefabricators also have their foot in the public housing door. When the Chicago field office of PHA approved the first prefabricated public housing project last year, Gunnison was Johnny on the spot. The firm provided 91 prefabs for the New Albany, Ind. area. American is furnishing 125 dwellings for another public housing project under construction at Lumberton, N. C. But PHA is not happy, says William E. Bergeron of the PHA Chicago field office. He told prefabricators: "We were of the opinion two years ago that substantial savings could be achieved by using factory-produced homes. Our experience has been otherwise. . . ."

## **Industrial housing, permanent and profitable**

One firm that concentrates on company houses is Southern Mill & Manufacturing. Manufacture, shipping and erection are done by Southern's crews. Southern has no dealers, says: "They don't belong in this kind of business." Southwest American Homes, Houston, which sells mostly to builders of sizeable projects, is supplying Alcoa with 140 one-family company rental units at Port Lavaca, Tex. Hope Natural Gas Co. chose Pease-Fabricated homes for workers at a new power-distributing plant, is tickled pink about the acceptance and permanency of the houses which can be resold later.

## **Relocatable housing moves by road or RR**

Houses that can be erected on one site and later moved elsewhere have occupied the attention of several prefabbers. Among them: two California companies, Mobilhome Corp. of America and Nicoll Lumber Co. Mobilhome designed a two- and a three-bedroom desert-type house for HHFA's relocatable housing program. Nicoll's Roll-A-Way house, originally designed for the same HHFA program, is being sold in northern California. It can be transported on highways without special permits, or shipped by rail.

## **Alaskan prefabs—HHFA is pleased**

For the first time, prefabrication is figuring prominently in the Alaskan housing program. West Coast Mills supplied Anchorage with 106 units this year. Also in Anchorage, 252 precut homes were erected by Robert Johnson Associates. Three Seattle businessmen expect to erect several hundred Gunnison prefabs in Fairbanks, Juneau and Anchorage. An HHFA official who toured Alaska was impressed with the quality of construction, speed of building and value provided the Alaskan buyer of prefabs. These sell for from \$1,000 to \$1,500 more than comparable housing in metropolitan US.

## **Prefabricated apartments brought reorders**

Another fertile field for prefabrication: garden apartments. Typical of several is Lumber Prefabricators Inc., which supplied four-family apartments for a 350-unit Warner-Kantner project in Cincinnati. W-K were so pleased with the ease of erection at their Canterbury Gardens project that they bought another 910 units without requiring LPI to submit bids.





For areas where school populations grow rapidly, several prefabbers can provide school facilities. American has built eight schools like this one in the vicinity of AEC's Savannah River project.



Knox Corp. concentrates on building large subdivisions of government-programmed housing in critical areas like the Savannah River, built these 180 five- and seven-room units in Fleming Heights, Ga.

Semico Inc. prefabs motels like one below, also does taverns, churches, town halls. This motel with exterior of 3/20" birch plywood is on a 184' x 24' slab. Semico tallies shipments by dollars instead of units because of varied building sizes, expects to do \$850,000 this year.



American, biggest producer of houses for large-scale developments, supplied 112 single and multistory units for Sylvan Knoll Apartments in Stamford, Conn. (below), 461 apartments for Warwick Gardens in Newport News, Va., another 630 units in Richmond, Va.



Flood-disaster housing was supplied by Page & Hill, which built a 250-unit project in Topeka, Kans. (above), another for Pierre, S. D.



This Knox-Bergstrom fold-out telescopes into a complete package. A transportable three-dimensional unit is formed by two adjacent units...



...Prefabricated panels and pre-cut lumber stored in the units are used to complete the frame of the Knox-Bergstrom house when it arrives at site.



General Industries built 86 demountable 500 sq. ft. houses near the Kingsbury Ordnance Plant in Indiana.

# H-plan and V-roof

One creates patios and terraces for different kinds of outdoor living;

the other opens up views of California's spectacular landscape

Architect John Funk's latest house is a handsome variation on a number of familiar themes. Specifically, these are—

**The H-plan**, which separates daytime areas from nighttime areas, uses the link between them as an entrance lobby.

**The outdoor house** (an increasingly popular California notion), which consists of a series of inexpensive "outdoor rooms" that adjoin the enclosed spaces. In this case, the "outdoor house" contains an entrance court, living court, dining court, service court, sunbathing court and viewing terrace.

**And the V- (or butterfly) roof**, which dips down over the center of the plan, but soars up toward north and south to point at important views at opposite ends of the site.

To these basic themes, architect Funk has added his own, familiar brand of perfect workmanship; and nature, in turn, has added some of her most spectacular California devices: sweeping views all around from the top of an oak-covered hill.

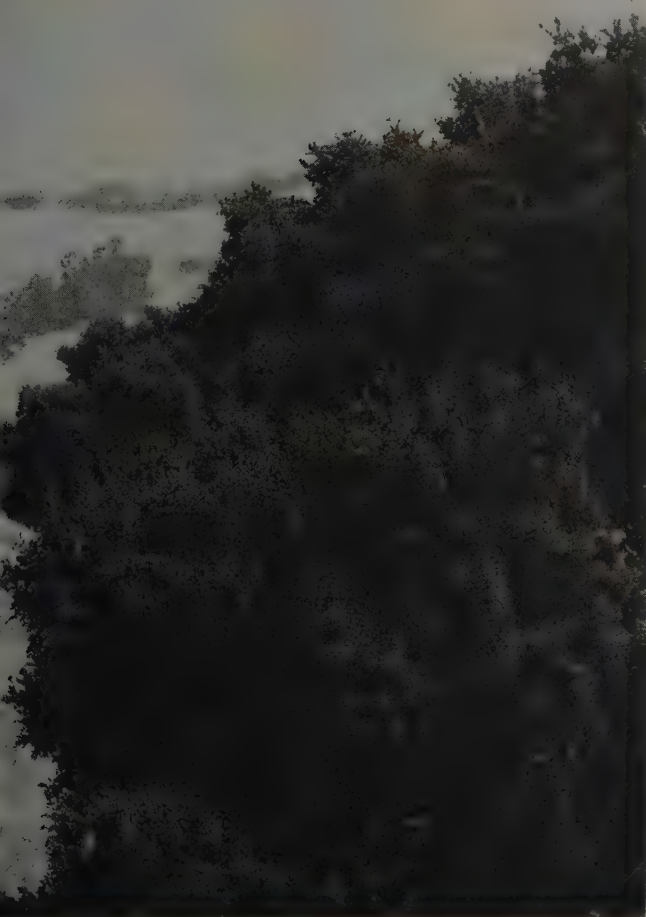
*Photos: Morley Baer*

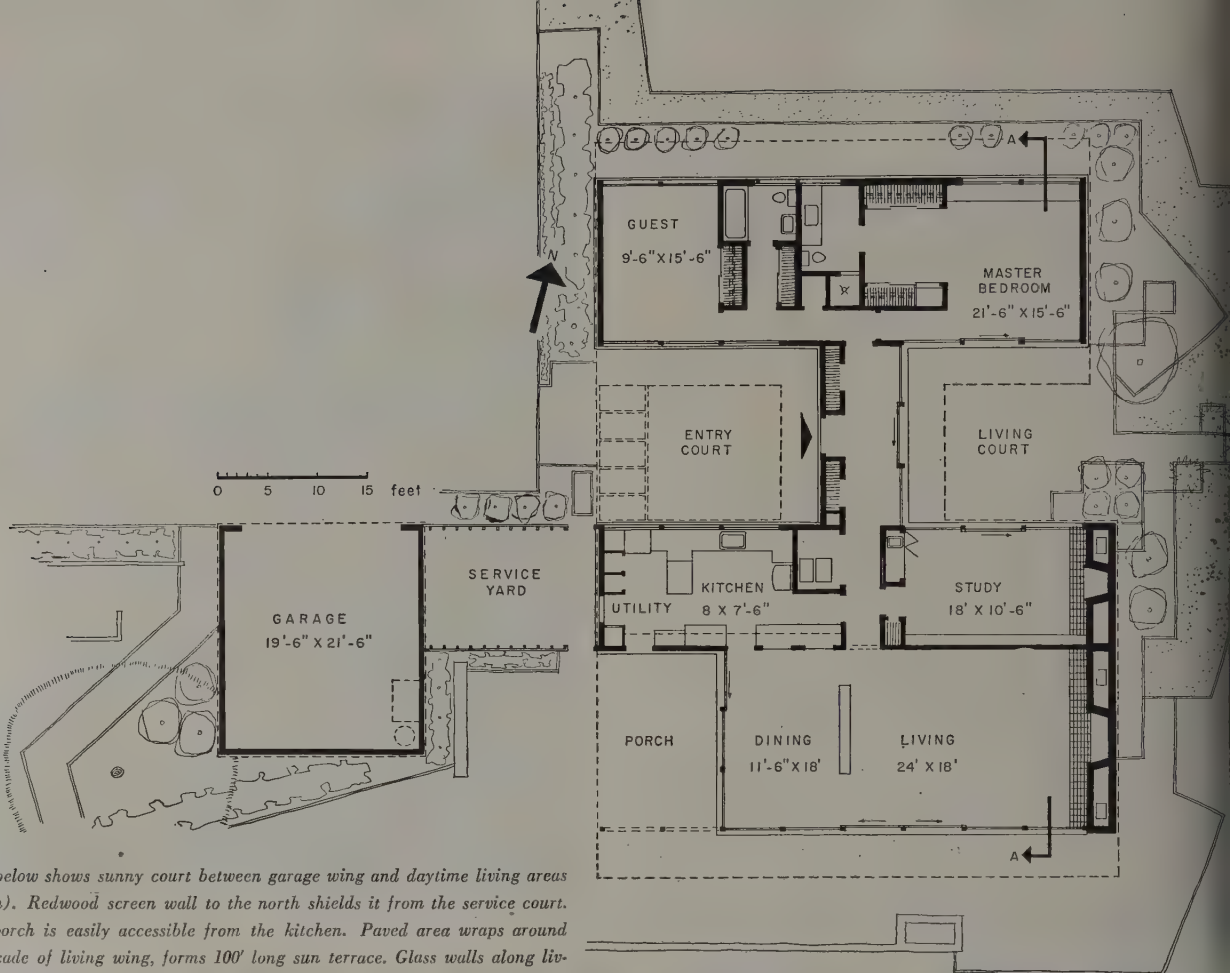




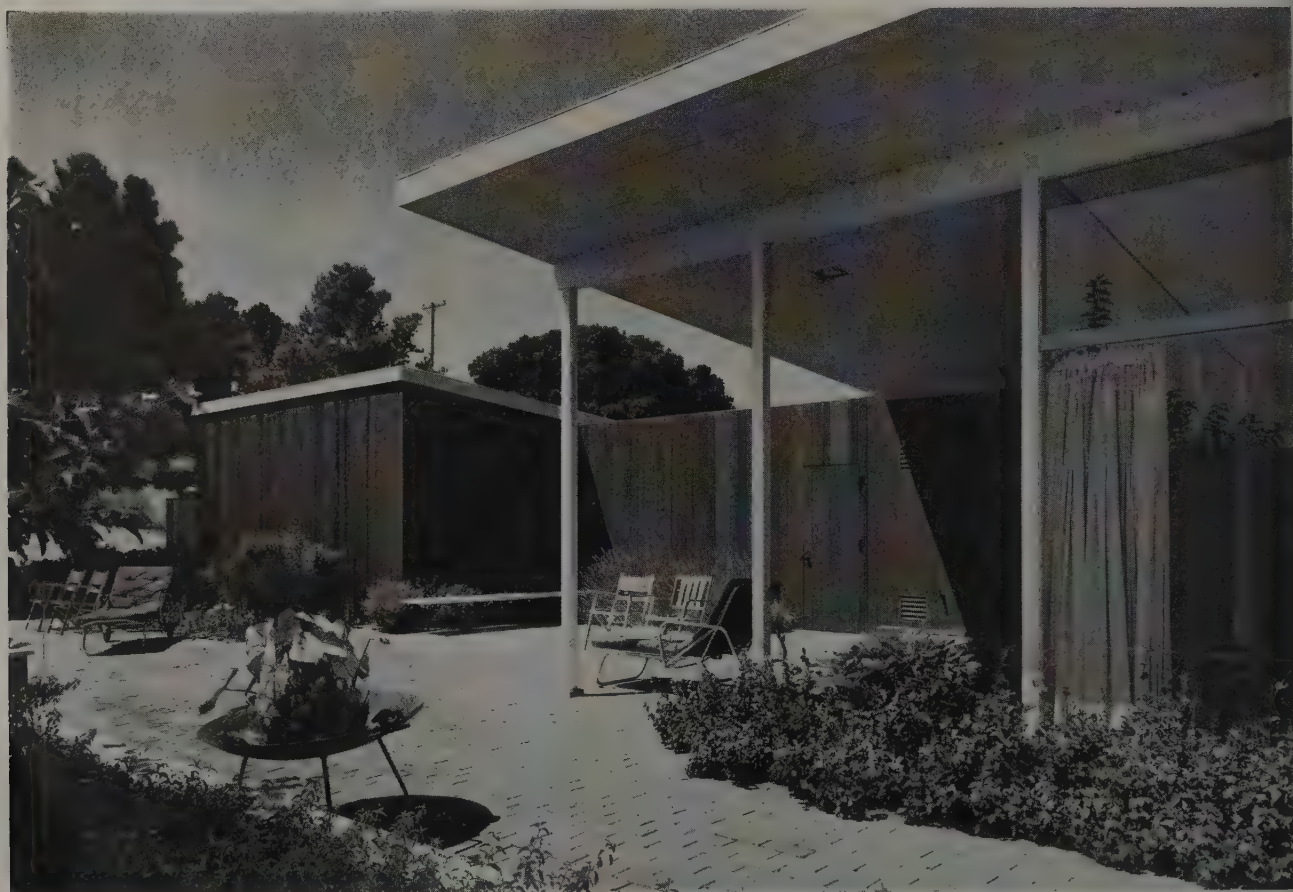
LOCATION: Redwood City, Calif.  
 JOHN FUNK, architect  
 BECKBO, ROYSTON & WILLIAMS, landscape architects

*The butterfly roof (seen from the south in the picture below) opens up the living areas toward the principal view of a lovely valley and rolling hills, lets in the sun under a 4½' overhang. To the north, it opens up the bedrooms toward a secondary view of Palo Alto. Swimming pool (free-form à la California) is seen, right and below left.*





Picture below shows sunny court between garage wing and daytime living areas (see plan). Redwood screen wall to the north shields it from the service court. Dining porch is easily accessible from the kitchen. Paved area wraps around south facade of living wing, forms 100' long sun terrace. Glass walls along living area are 10' high.







*Living room has spectacular views to the south of rolling hills and pleasant valleys, proves once again that site planning is wonderfully simple if you build in the Bay Region.*

**The advantages of the H-plan** are becoming more apparent every day: separation of bedroom areas from areas used during the day means better sound insulation and easier housekeeping (because the nighttime wing doesn't have to be kept presentable at all times); moreover, the outdoor spaces between the legs of the H—the "holes in the cheese," for which you don't pay much of a price—can be turned into handsome, intimate patios. Funk used one patio as a formal entrance court, the other as a living court upon which both the study and the master bedroom open through wide sliding doors of glass.

In addition to the basic H-shape, Funk designed a garage wing which (being again linked to the main house by free-standing screens) has formed a few additional outdoor rooms around the periphery of the building proper: a service court, and a sunbathing court with adjoining porch. These face south, catch the sun but keep out the breeze.

About these outdoor rooms Funk says: "They are very intimate in scale, afford a welcome contrast to the rest of the open-space views." To emphasize this intimate scale, the landscape architects used small-scale paving, small-scale geometric patterns in flower beds, and small-scale planting within the semi-enclosed areas.



*Study has its own fireplace, faces intimate patio located between daytime and nighttime wings. Note the contrast in scale between living-room (top of page) and study views. Furnishings seem a little too massive for this elegant structure.*

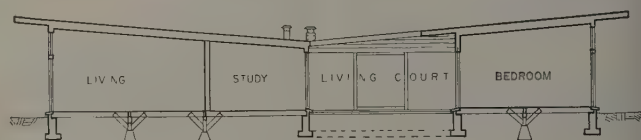


*Living court between study and master bedroom is intimately landscaped. It is visible immediately upon passing through the entrance door. Cost of house was about \$12 per sq. ft., excluding architectural fees and the landscaping.*

**The advantages of the butterfly roof** are related to each specific plan problem. (Cliché butterflies, a common sight nowadays, generally serve no apparent functional purpose whatsoever.) Funk's design is a beautiful example of how to get the most out of the butterfly: he had his principal views to the south, faced his living wing that way, and wanted to lift up the roof—the brim of his hat, as it were—to let in as much of the midday sun as he could get (he cut sky glare with a  $4\frac{1}{2}'$  overhang). And he had his secondary views to the north, faced his bedrooms *that* way, and again lifted up the roof in that direction to emphasize that view as well.

Where the V-shape dips down Funk placed most of his service rooms, which don't need high ceilings anyway. The roof deck is supported on dropped  $4'' \times 6''$  beams, carried on  $4'' \times 4''$  posts,  $4'$  on centers.

The butterfly shape does something else for Funk's house: since the site is a flattened top of a hill, a flat-roofed house might lack drama, seem lost among the heavy oak trees. The V-shape of the roof, on the other hand, is self-assertive and vigorous, turns the house into an interesting sculptural counterpoint in contrast with its natural setting. The formal terracing and the spacious flights of steps leading up to the house stress this sculptural effect still further.



SECTION A-A

*Section above and picture below illustrate structure and effect of butterfly roof. Opposite: view of paved terrace along south facade. Retaining walls can be used for outdoor sitting to face interior living areas.*





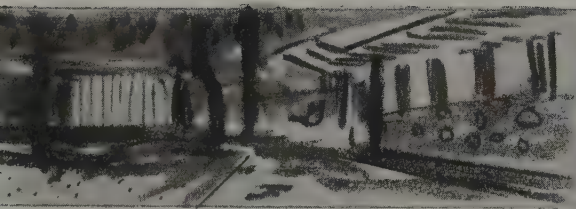




**Here is how  
Alexander Girard  
goes about  
designing a house**

**... and this is how**

**his friend, Charles Eames,  
thinks you should  
look at the end product**



**This story is concerned** with two houses in Grosse Pointe, Mich. They were designed by Girard, one for his own use. The photos, drawings and layouts on these ten pages (all by famed designer Charles Eames) are an unorthodox attempt to explain the special character of Girard's work. As you leaf through, you may get the impression you are in some wonderful country fair—and that is exactly the impression you get as you walk through Girard's houses.

*Photos: Charles Eames*

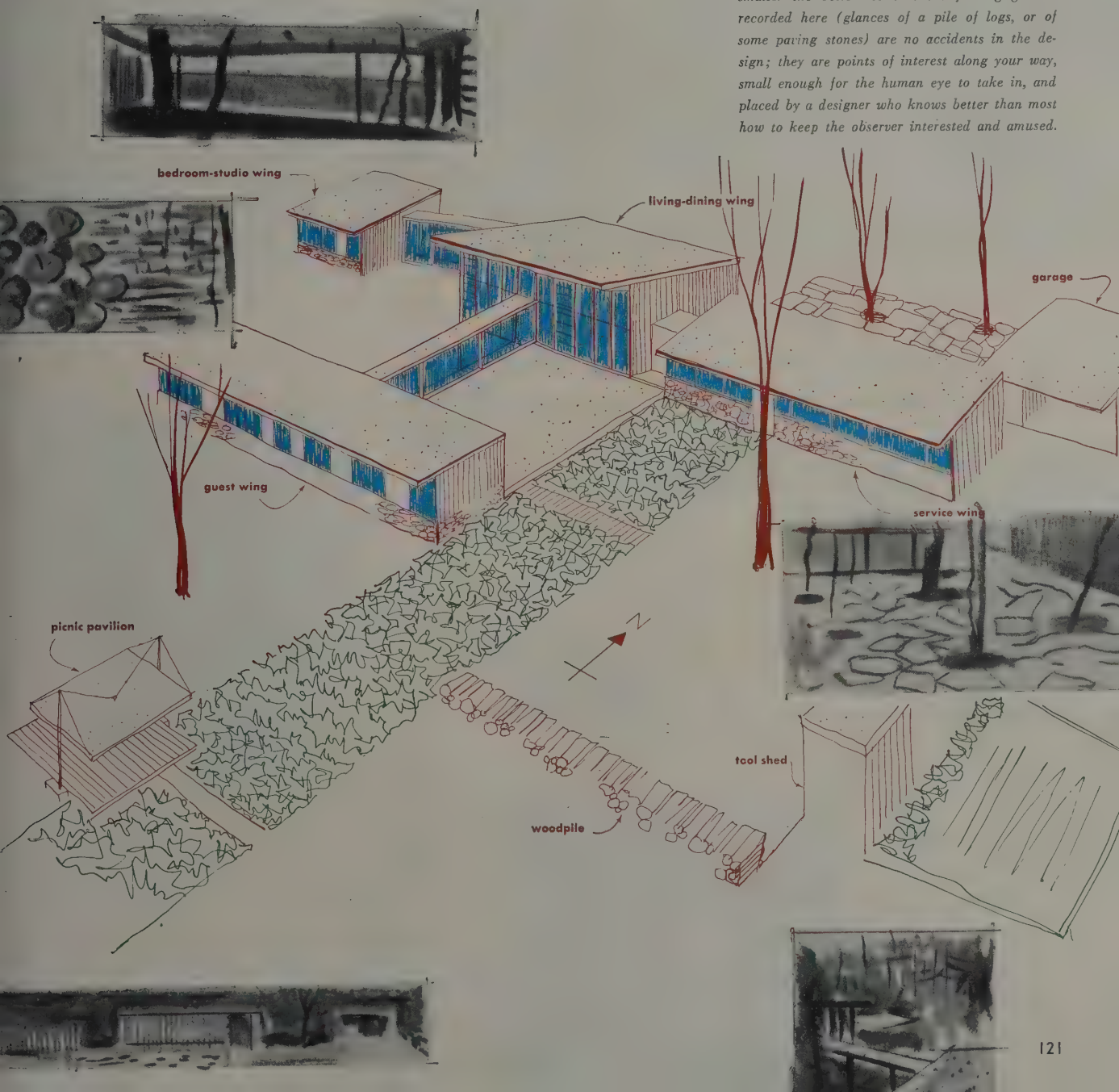




The first house is really four separate houses linked by glazed passages: A service house with kitchen and utilities; a living-dining house; a house for guests; and a house for the owners' bedrooms. Between these houses are paved and planted terraces. To the south is a picnic pavilion, suspended between two posts.

Because this house is so big and so elaborate, it is hard to understand it all at one glance. Instead, the final, total impression is the sum of a lot of detailed impressions; and on this and subsequent pages, Charles Eames has recorded some of the many detailed impressions you get as you walk in and out and around the buildings.

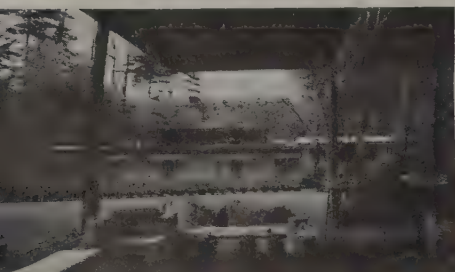
Girard is tremendously interested in details—the smaller the better—so that the fleeting glances recorded here (glances of a pile of logs, or of some paving stones) are no accidents in the design; they are points of interest along your way, small enough for the human eye to take in, and placed by a designer who knows better than most how to keep the observer interested and amused.



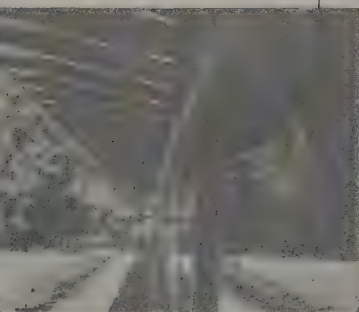
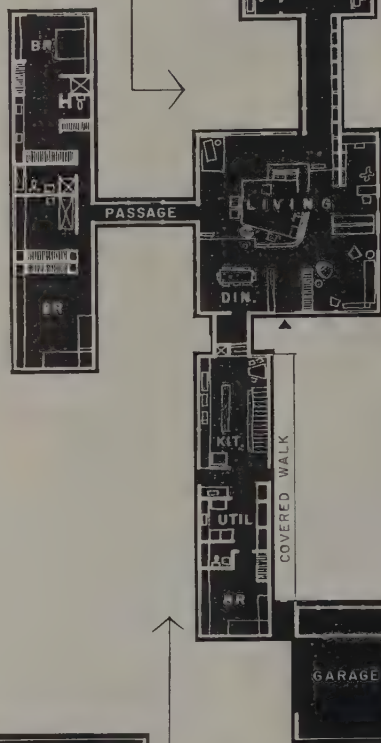
Glazed link between wings



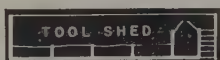
Bedroom wing seen from picnic pavilion



End wall of bedroom-studio wing



Roof overhang along guest wing



Tool shed



Approach between garage and service wing



Terrace between living and guest wings





Terrace between living-dining wing and guest wing seen by night (above).  
 Eames' impression of same space by day is shown in sketch below.



**For all its preoccupation with detail, this house has a definite consistency** in the over-all design. This consistency has been described as a "consistency of confusion." A very human consistency, in other words. Girard has a real and often humorous tolerance for such human failings as knickknack collecting, trophy displaying, untidiness within reasonable limits and general, aimless puttering around. His houses encourage man's more relaxed and extrovert pursuits. For this reason, some critics have thought that. . .

**Girard has revived the Victorian house**—in spirit, though obviously not in its mannerisms. Girard's houses are as modern as any built today: open plans, huge walls of glass, structure used decoratively, indoor-outdoor planning done concurrently—all these are obvious features. But they seem less self-assertive here than in most modern work, for the plethora of wonderful, small-scale "junk" with which Girard litters (and lets his clients litter) the interiors of his houses gives them that special atmosphere that makes people want to spend relaxed hours browsing around in antique shops all over the world. A trip through a Girard house is as full of surprises and delights as a walk through the great bazaars of Istanbul, or the stalls in London's Flea Market—and just as much fun. In all this excited confusion, however. . .

**The architecture superimposes an orderly pattern.** His pattern is nowhere near so rigid as that of doctrinaire modern houses. But it is there nevertheless. It is a pattern very much like a checkerboard. Black squares are indoor areas; white squares are open courts and terraces. As in the checkerboard, openness and closedness alternate constantly, so that each closed area faces an open one, and vice versa. Among the many advantages of this pattern, three stand out: first, *changes in grade* can be taken care of without trouble, since the black squares can be linked by inclined passages as easily as they can be linked by level walks; second, each black square has *its own kind of view*, its own time for sunshine, its own little garden—small enough in scale



*Dining area with free-standing buffet*



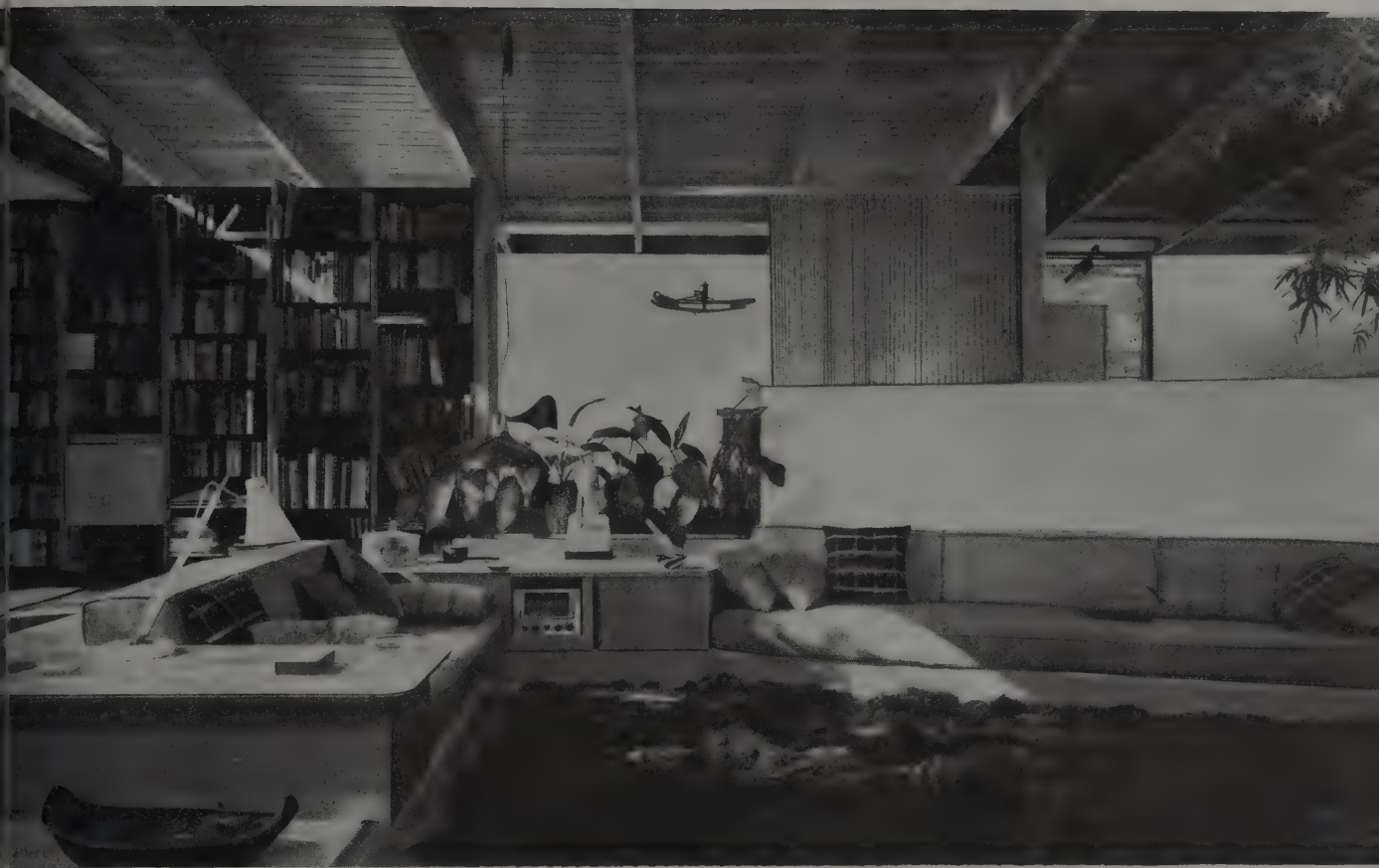
*Kitchen counters with built-in spice containers*



*Picture of living area taken through skylight shows gourd-shaped fireplace, free-form seating arrangement, scattered pillows, plants, chairs, objets d'art*





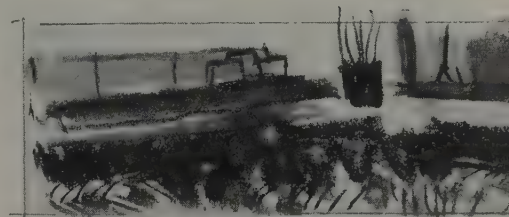


*Living area as you see it when sitting down*

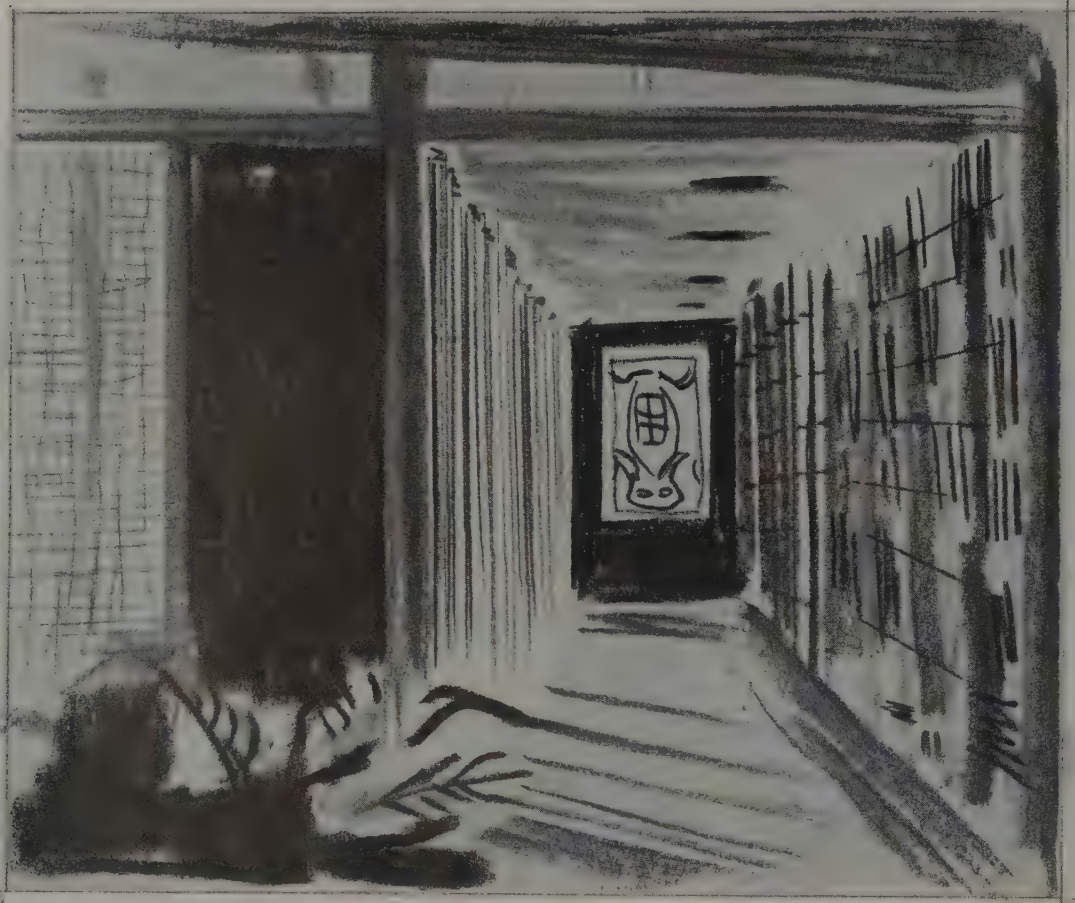
to permit "back-yard gardening" of a limited kind; and, finally, the white squares in the plans become *real outdoor rooms* (because they generally have at least three real walls) and thus get an atmosphere of privacy and intimacy. One magic by-product of this kind of plan, incidentally, is that the outdoor rooms can be intimate in the daytime, but very spacious at night. The trick is that at night, lights will be mirrored in their glass walls until the reflections finally vanish in some dim infinity (*see p. 123*).

**Upon close examination, still another pattern begins to emerge.** This is the pattern of the softly curved, amoebalike free form Girard knows how to master as do few others. This pattern seems to go through all of his work: you sit down in a Girard living room, for example, and next to you is a lovely, rounded and brilliantly colored plaster object made by Mexican Indians. It rests on a slightly larger, but equally curvilinear shelf or tabletop—which, in turn, is right next to the very much larger, but equally free-form couch you happen to be sitting on. The pattern becomes more fascinating all the time: you look up and find yourself facing a hand-sculptured, asbestos-plastered and gourd-shaped fireplace, and there are more free-form screens, chairs, tables, lamps and *objets d'art* around you than even a Freud might have dreamed up. Far from seeming overly busy or overly nervous, this collection of free forms of all sizes, shapes and colors hangs together as organically as a cell structure in nature. By literally flooding his interiors with such forms—and making the rooms themselves (more often than not) irregular in shape—Girard gets a total effect that is remarkably unified, like a colorful tropical jungle seen at a distance that helps merge all the many different ingredients; or like a fantastic patchwork quilt of bits of brocade, silk, printed cotton, felt and velvet, all in brilliant contrast with one another, but all hanging together to make a harmonious whole.

These are some of the things that Charles Eames was trying to say in this photographic report of his trip through Girard's Wonderland.



*Same living area as it might appear to dog stretched out in deep fur rug.*



View down ramp between living-dining and studio wings.  
Book shelves at right, glass wall at left.



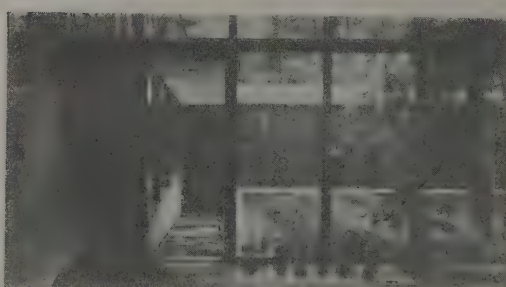
Passage to guest wing

The consistency of confusion in Girard's work is charmingly evident in these pictures, which show, among other things, some marble chips on the roof crisscrossed with pine needles, some objects fastened to the dining-room wall, some patterned glass surfaces given a curious striation by the Venetian blinds behind them, some Girard-designed printed fabrics, and a few rather special views of ceilings and canopies that you can only get if—like Mr. Eames—you know how to take a photograph while lying flat on your back.

This is no hodgepodge, and therein lies the consistency, the art in Girard's work. All these curiously unrelated elements assembled under (and on top of) the same roof look as if they really did belong together. This is *collage* architecture. And as in *collage* painting, it is not merely the paste that holds the different bits and pieces together; it is the unifying personality of the designer—plus the unifying personality of the owner as the designer has so neatly interpreted it.



View from living area toward studio passage

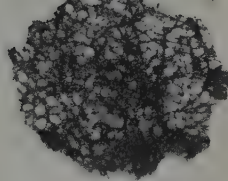


Link between living and guest wings

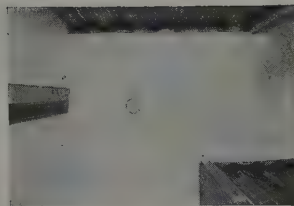




*Roofscape*



*Pine needles*

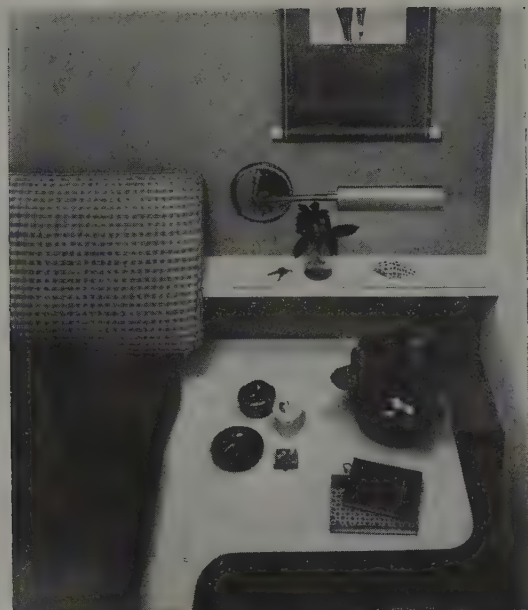


*View of kitchen ceiling*

*Glimpses of the sky*



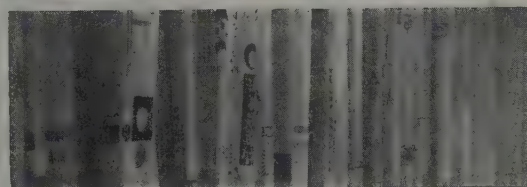
*Patterned glass*



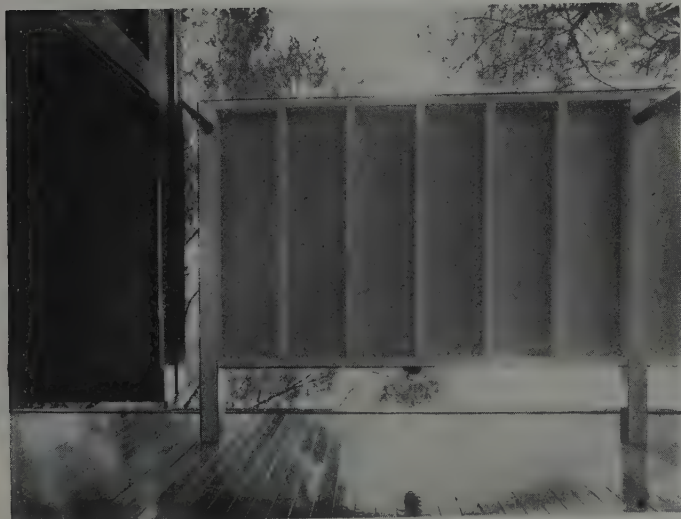
*Bedroom corner*



*Lamp over living room shelf*



*Girard-designed fabric*



*Canopy above entrance passage,  
photographed while lying flat on back.*



*Objet d'art on living room wall*

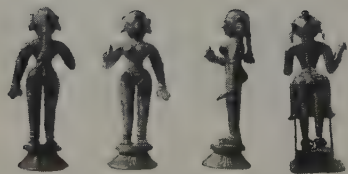


*These are the tools Girard needs to design his houses, fabrics, interiors*

... and here is how **Alexander Girard's own house**  
looks to Mr. Eames ...



*Wall adjoining Girard's dining porch has abstract relief of driftwood, boards, objets trouvés.  
Left: Girard and collected primitive sculpture.*

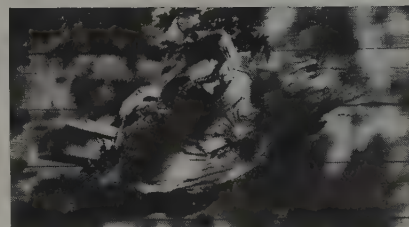






**These pictures show** that Girard's own house is closely related to the one on the preceding pages. They also tell several things about Girard. First that he works next to a wall of shelves stacked to the ceiling with brushes, paste, inks, paints, wire, rope and toys. Also that he has painstakingly, over the years, nailed odd pieces of driftwood board and crates and other *objets trouvés* to the side of his dining terrace to create an exceedingly handsome abstract relief. Finally, that his own living room could not be more casual—the selection of an elaborately decorative table here, a curved wall there, and of numerous plants, lamps, trays, clay figures, boxes shows his consistently good taste.

And that, of course, is the clue to the whole secret: confusion, knickknacks, free forms, junk or driftwood or toys—all can have consistency only if they are selected with consistently good and imaginative taste. So that Girard's art is not only a consistent art, but an art of contrasts as well. The sum total, the end result of it all is an environment full of fun, full of relaxed and humorous tolerance—an environment designed for people to live in happily ever after.



*Some of the exquisite "junk" collected by Girard and displayed in his house*

*View of Girard's living room—a homogeneous interior of many diverse parts*





Photos: Guy Burgess

## Siting with sight-lines. These houses near Denver are farsighted— looking at the view, not into the neighbors' windows

There are 32 houses on this 11.4-acre parcel, plus a hearty two-acre community green. This means that 90' x 120' is a good-sized slice of land for any one house. And since the houses, all planned by the same architect, are scrupulously contemporary in their design, there is a lot of glass in their walls.

The familiar combination of a crowded site plus contemporary design all too often makes for a public kind of paradox in the finished development: the owners of the houses sit behind their windows and watch each other through "the changing pageant of the seasons" with waning enthusiasm. There have been cases where the glass was wallpapered eventually.

But this is not so here. In the Mile High Housing Association near Denver, enthusiasm has been consistent since the first families moved in two years ago. The reason for this is that Eugene D. Sternberg, who planned this project, has other notations on his letterhead besides architect; he is also a trained site planner, and city planner, and he brought his experience to bear on this little community.

### He had two advantages:

1. Off stage, there are beautiful mountains, a range of the Rockies. He selected his site with a fine view of these (and also with the most favorable orientation for Denver). When you look out your window in this development, you are more likely to raise your eyes to the far prospect, than to contemplate your neighbors' laundry.
2. The land slopes slightly—more than it appears to in the photograph above. (Examine the contour lines, right, instead. There is an 18' drop from one corner of the land to another.)

He brought to these advantages these additional devices:

- ▶ A loop road layout, with irregular subdivision of the parcel. Arapahoe County in Denver is not generally familiar with loop street layouts, so this took "a lot of talking and education."





EUGENE D. STERNBERG

architect and site planner

M. WALTER PESMAN

landscape architect

O. HOWARD MILLER

assistant designer

BOND ENGINEERING

civil engineers

BILL BROWN

builder

*Roads are deliberately curved within the project to slow up traffic. Acre at northwest corner of property is set aside for project vegetable garden.*



► Variation in the relationship of one house to another. This generality sounds easy (generalities usually do) but it took a lot of study, since Sternberg was working with only four basic plans for the 32 houses, and was unwilling to sacrifice the solar benefits of an open south exposure for any of them. His considered solution, which retains a remarkable amount of privacy for each family without selling them short on view, orientation or exposure, can be appreciated only by studying the subtle tiltings and off-setting and land dividing in the site plan on p. 131.

### Framework plans

Says architect Sternberg, "The planning also is aimed at creating a residential atmosphere with community feeling instead of a block after block development."

The four basic plans used in this development (shown on this and the next two pages) are not rigid solutions. They are economical frameworks for individual houses. Almost all the people in this development were members of the faculty at Denver University (including the architect) and there was no wish for conformity off the campus. The four house types vary from 850 sq. ft. to 1,650 sq. ft., with two sizes of 1,000 sq. ft. and 1,240 sq. ft. in between. The prices: 850 sq. ft.—\$11,000; 1,000 sq. ft.—\$11,800; 1,240 sq. ft.—\$13,500; 1,650 sq. ft.—\$15,500 (without land).

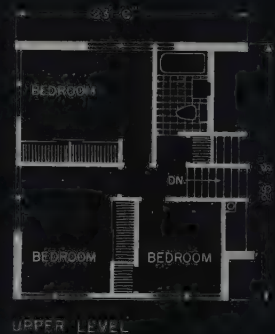
The project was completely presold, and built on a co-operative mortgage totaling \$367,900, with \$90,000 down payment (mortgage is by New York Life Insurance Co., in co-operation with Garrett-Bromfield of Denver). Monthly payments range from \$70 to \$100 per house.

The houses are combination frame and brick, and a good deal of this handsome brick is left exposed in interiors as well as exteriors. All houses sit on similar concrete slabs, although a variety of warm-air heating systems were used, including combination radiant wall and radiant floor systems plus direct air distribution.

Changes in the clothing put on the basic floor plan include variations of roof type, of exterior brick finish (or exterior wood), of color, and shifting of the facades which face the street. Dark colors were used freely in combination with pastels at the choice of the individual owners—but with the advice and quietly determined direction of the architect.

The largest house, shown in plan below, uses a split level at one end to include five bedrooms. From the living room you go down six steps to two of the bedrooms. On this level there is also a bath, a workroom and the utility room. The other three bedrooms, with a second bath, are above, up nine steps from the living room.

*This is the largest house, with plans and interiors at the right*



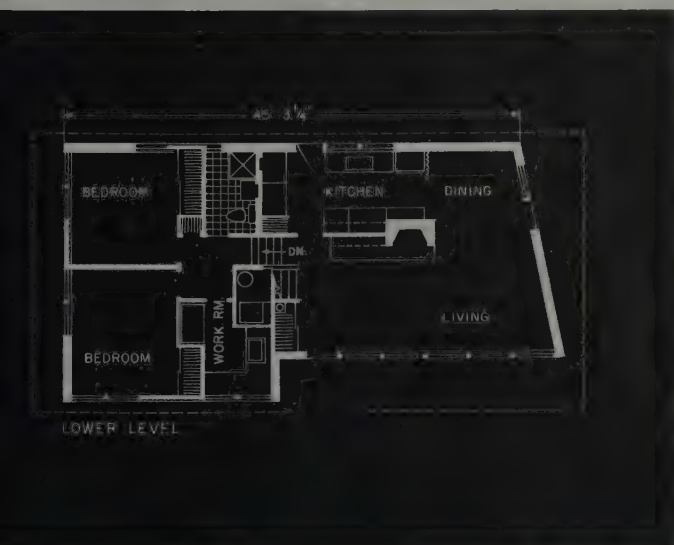




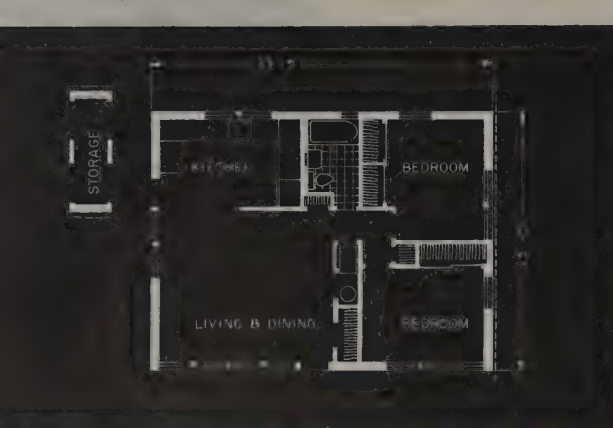
**Living room** of largest of these house designs, looking toward the half stairway up to bedrooms. Photo directly to right is view down into living room from the bedrooms; above right you go around the corner of the living room to look into the dining area.



**Fences** are all subject to approval of architect and are all made of redwood. Above is part of community playground.



**Trellis** is terminated by exterior barbecue. This photograph also gives an idea of the continuous outdoor living space in the project.



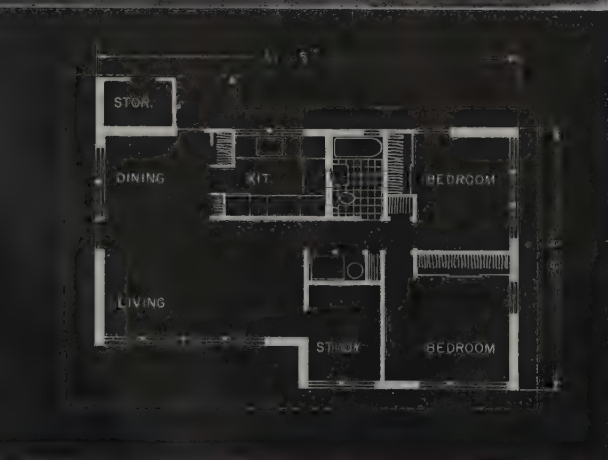
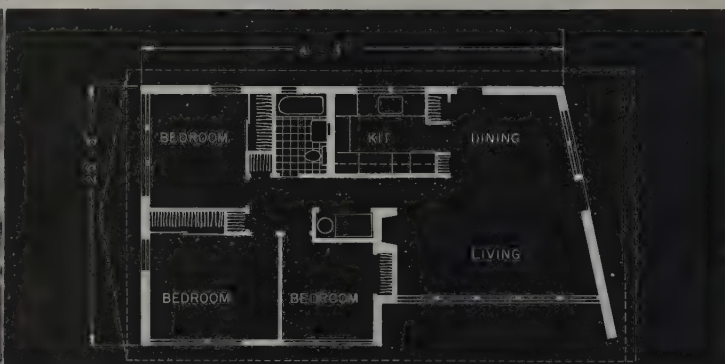
A typical COST BREAKDOWN (for the 1,650 sq. ft. model):

Miscellaneous items .....	\$ 137
Excavation .....	268
Concrete walls and footings ....	300
Masonry .....	2,192
Dampproofing .....	22
Concrete floors .....	724
Rough carpentry .....	2,960
Finished wood flooring .....	213
Millwork .....	510
Windows, frames and glazing .....	458
Doors and frames .....	327
Stairs .....	122
Steel .....	28
Insulation .....	126
Roofing .....	198
Sheet metal .....	97
Painting .....	892
Finish hardware .....	117
Tile and bathroom access. ....	20
Linoleum .....	270
Weatherstripping .....	46
Kitchen cabinets .....	269
Medicine cabinets .....	26
Plumbing .....	1,080
Heating .....	643
Electrical wiring .....	370
Fixtures .....	100

\$12,515

*This 753 sq. ft. house (plus carport) is smallest size*

*Below are two other versions of around 1,000 sq. ft.*





# FHA—cooperative insurance or political subsidy?

**The first big homebuilding question the new administration must face is what to do about HHFA.** It is five years now since that superagency was set up to co-ordinate existing housing agencies and consolidate duplicating functions. It is perhaps unimportant that HHFA has just added one more layer to the duplication. It is perhaps unimportant that HHFA has been too busy with its own projects to do much co-ordinating.

But it is very important indeed to look at the record of what HHFA has done to FHA. This magazine has gone on record repeatedly that the creation of FHA is the best thing that ever happened to the homebuilding industry and the home-buying public. Whatever the doubts may be about HHFA, there can be no question about FHA.

**What has HHFA done to or for FHA?** The answer is reasonably clear and reasonably simple. HHFA is a Fair Deal agency, set up for Fair Deal purposes. And so, naturally and understandably, HHFA has used FHA to further welfare state concepts and Fair Deal politics.

HHFA is making FHA a social-purpose agency rather than a co-operative insurance agency—a social-purpose agency used to grant different sorts of privileges to special classes of builders and owners, with special terms for defense housing, low-priced housing, prefabricated housing, co-operative housing, large-scale housing, and so forth. The originally straightforward FHA insurance system has been made so various and complex that even the best-informed officials can rarely be sure of the rules without consulting the book.

HHFA “co-ordination” has imposed upon FHA many of the purposes of public housing and has turned FHA away from the business policies that won FHA the confidence and esteem of the homebuilding and home-financing world.

We know few thoughtful homebuilders, thoughtful mortgage lenders, or thoughtful regional officials of FHA itself who do not deplore the influence of HHFA on FHA. We know few who do not believe FHA should be given back its independence, to serve as an example of co-operative insurance on a business basis.

We have great respect for HHFAdministrator Raymond Foley as a shrewd, informed, tireless and devoted public servant. And so perhaps it is important to recall that before HHFA was set up it was none other than Raymond Foley who warned the Senate Banking Committee that such a catch-all superagency might do more harm than good to FHA.





LOCATION: Beaumont, Tex.  
HOWARD BARNSTONE, architect  
LEE D. GILSTRAP, general contractor  
WALTER P. MOORE, structural engineer



*Oriented to the prevailing breeze, the rear of the house faces southeast toward the broad, wooded end of the triangular lot. This entire facade is glass, with awning-projected windows for the bedrooms, sliding sash for the living-dining area.*

# More space for less money

**Economical construction and  
resourceful planning  
mean a bigger,  
more livable house**

*This small (2,100 sq. ft.) house will help today's homebuilder on two perplexing questions:*

## 1) How cut construction costs?

By borrowing commercial construction methods (such as 6'-4" module based on standard awning-projected and sliding sash), architect Howard Barnstone has reduced unit costs, created a more favorable rate of exchange between the owner's dollar and the space to be bought.

## 2) How give a medium-priced house commodious proportions and near-flawless circulation?

By taking the pattern of family traffic as his guide, he has devised a plan that eliminates waste space, enlarges usable space and steps up the general efficiency of running the house.

## Planned to cut construction cost

Economy of construction can be credited principally to the use of the modular system and the use of a single, sheet material for roof deck and finish ceiling.

The structural system employs double 2" x 10" redwood beams bolted to 4" x 4" redwood posts which are rabbeted out on two sides to receive one-half of the thickness of the beams.

The roof consists of 2'-8" x 8'-0" cement and wood fiber board resting on steel purlins, which in turn rest on the beams. A built-up roofing was applied to the deck but no further treatment was given the ceiling. Excellent insulating and acoustical results are claimed for it. The architect estimates that more than 50% of the cost was saved by this method as compared with separate decks, insulation and ceiling-board construction.

One drawback involves lighting where no "between-decks" space exists for electric conduit-to-ceiling outlets. Here Barnstone had to run cable in the recess between double beams or up through and across the roof; despite these measures he is dissatisfied with the lighting he achieved.

### Planned for privacy and convenience

A plan specifically adapted to family traffic (two adults, two children) was a major consideration. Barnstone made certain that it could flow from any room in the house to any other location without tracking across another room. The central entrance and short bedroom corridor give direct access to every room (except the private master bath).

The kitchen-laundry is on the street side for service from street and carport. This side of the house is distinguished by plentiful "yard" storage, artfully concealed. Lower kitchen windows are the only break in the privacy afforded by the redwood wall sweeping across the house.

- ▶ The living and dining areas were combined to make a generous, high-ceilinged area, and were isolated from bedroom traffic.
- ▶ The two small children's bedrooms have a folding common wall that promotes privacy for both children and adults by providing a daytime play area so the children are less likely to monopolize the living room.
- ▶ Adjacent to the main bearing wall of the carport are toy storage area and a supplemental lavatory that can be reached conveniently from the kitchen-laundry or from all outdoors.
- ▶ The five principal rooms in the house all have a view through a glass wall of the garden and neighboring woods on the southeast.

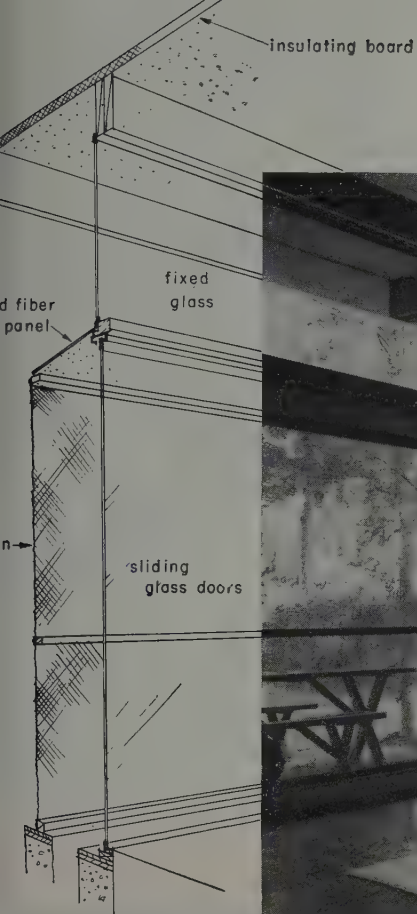
The Blums—as straightforward in their approach to the architect as he was in his approach to the house—sacrificed the psychological value of a fireplace to the practical value of air conditioning. They left most of the problem solving to the architect. For example, details to take care of the humid climate include: deep overhangs, awning sash, rooms open to the southeast breeze, the generous use of rot-resistant redwood.

As evidence of the local appreciation accorded this house, it received an architectural award at the Texas State Fair this September.

*The clean, uncomplicated lines of the house suggest that the necessity of avoiding the slightest extravagance in design can be turned into a visual asset.*

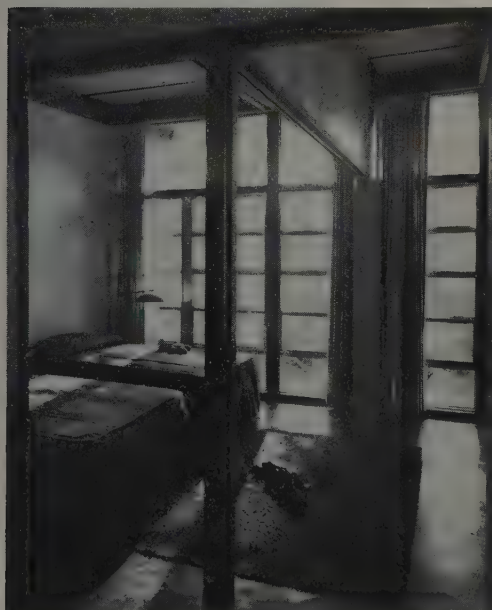






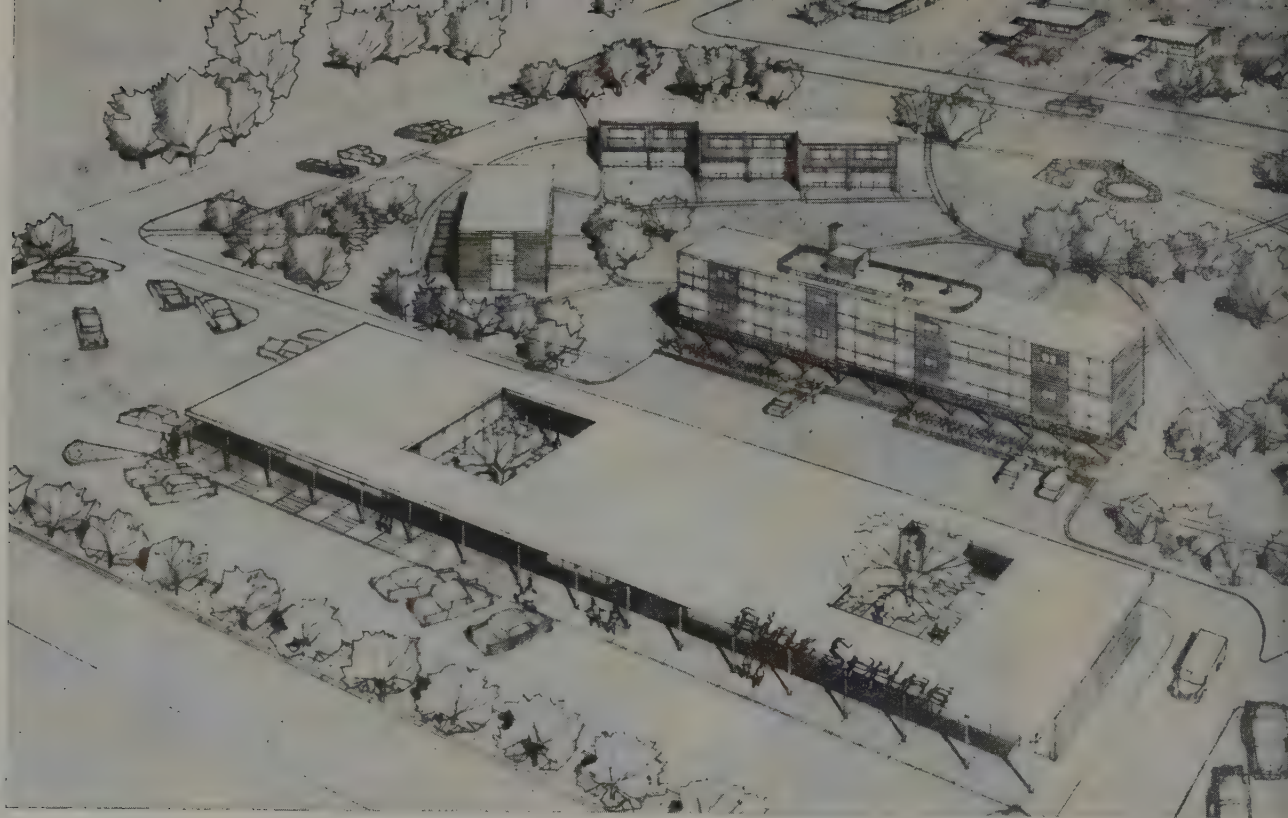
The roof structure is clearly visible in this picture: double redwood beams, steel purlins, cement and wood fiber board which also serves as the roof deck. Space between the screen cage and the sliding sash is part terrace, part plant bed.

Folding partition between the children's rooms open them up for daytime use as a playroom.



#### Cost Breakdown:

Excavation .....	\$120	Millwork .....	1,400
Fill .....	100	Sheet metal .....	160
Concrete .....	1,100	Painting .....	1,050
Steel .....	560	Hardware .....	250
Lumber .....	4,600	Plumbing .....	2,100
Carpentry labor .....	4,100	Electrical .....	1,300
Brick .....	460	Heating & air condition...	1,800
Windows .....	1,600	Tile work (ceramic) .....	600
Roof (structural cement		General contractor's fee ...	1,800
fiber boards) .....	1,350		
Roofing .....	650	Total Cost .....	\$25,100



# LESSON FOR

↓

## **builders:** to sell houses, get a fine site plan, fresh designs

## **architects:** one design job for builders can lead to others

If houses are harder to sell next year, as many builders believe they will be, builder-designer teams should know about the newest success in Washington, D. C. Consisting of only 125 houses, a few apartments and a row of stores, this development has so many admirable features it deserves wide recognition.

### LOCATION:

Fairfax County, Va.  
9 miles from downtown Washington

### BUILDERS:

Eli and Gerald Luria,  
Arlington, Va.

### ARCHITECTS:

Keyes, Smith & Satterlee;  
Francis D. Lethbridge, associate

Price range of houses with land:  
\$15,250 to \$20,500

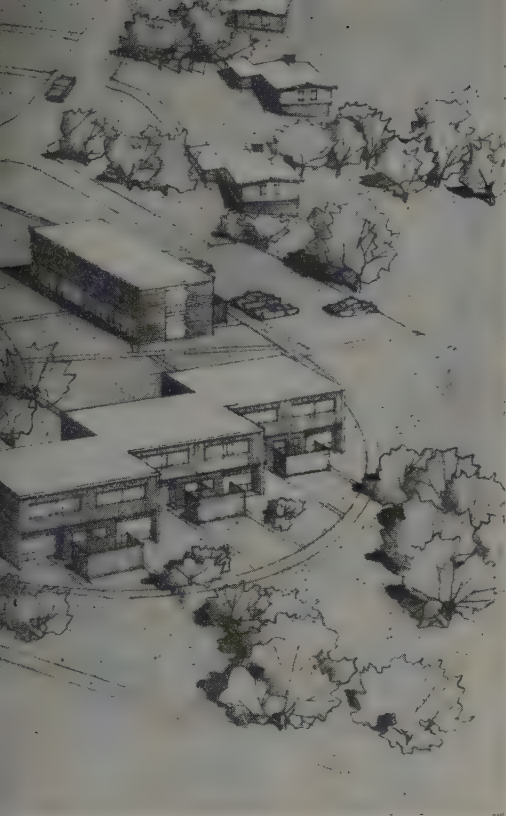
**For architects** this development demonstrates that:

1. They can well afford to spend time with merchant builders.
2. Builder clients who begin with a few houses may go on buying architectural service: apartments, shops, office buildings, large houses.
3. Architects can sell many related services builders are happy to pay for.
4. By helping to create an entire community where people live well, architects can achieve a deep and permanent satisfaction.

**For builders** it proves that:

1. In a competitive market, up-to-date design pays off in houses just as it does in the sale of every other product that people buy.
2. Experienced architects have a special talent for design that makes one group of houses, stores or apartments stand out above others.
3. Architects brought in early can contribute many ideas that go far beyond the design of the building.
4. It is better to pay a skilled architect than to overpay a salesman. A well-designed house practically sells itself.
5. Once a builder gets a taste of the many satisfactions that come from a fine community he will never do another ordinary project.





*Large drawing, left, shows how the five-acre apartment and shopping area will look when completed. Row of six stores has two open-air patios where people may sit and relax or perhaps have refreshments in good weather. Stores have far more charm than usual row of shops, will be a community asset. Below is the street and lot layout for entire project.*



**Apartments and stores in an attractive park.** Homebuilders who look with envy at large shopping centers but haven't enough people in their project to support a number of stores can learn a lot from this modest commercial area.

In most projects individual house owners do not want to live close to apartments or stores. Yet so skillfully have the architects laid out these five acres that they will be a community asset rather than a liability.

The Lurias saved every possible tree, turned this end of the property into an attractive park. The apartments and stores will not tower above the nearby house but form a buffer between the one-family area and the busy traffic on the main highway beyond the stores. The architects have used the park to add value and charm to both the shops and the apartments.

The design of the stores has much to commend it. For this small, intimate neighborhood, the stores are intimate in their design. Proportions of the group and relation of height to width are good. An outstanding feature is the open-air gallery which cuts through from front to back in two places. The drugstore, at the right end, may use its gallery as a patio to serve drinks outdoors in summer. The store on the left will be a food shop and the stores in the center will be rented by small neighborhood merchants.

The architects laid out the pleasantly meandering street plan shown at the left. Roads follow the natural contours so the builders had less earth to move than if a gridiron pattern had been used. This creation of curving streets and small neighborhoods increases the value of the land and brought many buyers.

*continued on next page*



*Sketch above shows apartment group as seen from the one-family house area. These are truly "garden apartments," as the five buildings are well separated and surrounded by trees. The large building has only one-bedroom units. Four smaller buildings are duplexes with two bedrooms upstairs. Total group has 55 apartments, or 15 families per acre.*

**Proper orientation adds livability and value.** In their apartment house area (above)

and in their houses the Lurias have added thousands of dollars in permanent value and an inestimable amount of better living for future families through the careful way that every building was put on its site. In a speculative development houses are usually lined up in rows and the builder shrugs off his responsibility in regard to orientation. Picture windows face any direction regardless of view or exposure. Garages may be on the south, blocking winter sunshine.

But architects Keyes, Smith & Satterlee and Lethbridge know that the value of a house or apartment for family living can be nearly doubled if house and land are related to each other. Because of the excellent job they did on a previous Luria project where the builders have had the most satisfying experience of their building careers ("they're the happiest, least complaining bunch of buyers we've ever seen") the builders were willing to pay \$40 per house to give the architects time to study every location. Then the particular model which best fitted each site was chosen, and it was twisted or turned on the lot until it made the most sense. Admittedly the big lots of  $\frac{1}{2}$  acre or more and wooded, rolling land gave them an opportunity that not every builder has.

This careful site planning calls for a specialist, not a construction superintendent. The \$40 bought the time and judgment of specialists who know as much in their field as lawyers or accountants (without whom no builder can get along) do in theirs. But ultimately the builder doesn't pay the \$40 himself. It is paid for by the buyer who, if he knew what he was getting, would consider it one of the best buys he could make.

Actually, the Lurias got a big return on this \$40 investment. For proper location of the houses means a great deal less earth moving, shorter driveways—but of greatest financial importance, it often meant turning a one-story house into a two-story which brings a larger profit than the smaller house.

The drawing opposite shows one small section and how houses vary in relation to contours of the land, trees, view, summer and winter sun and breezes. Most houses have their window walls where they get a pleasant view, and not one of their neighbor's service yard.

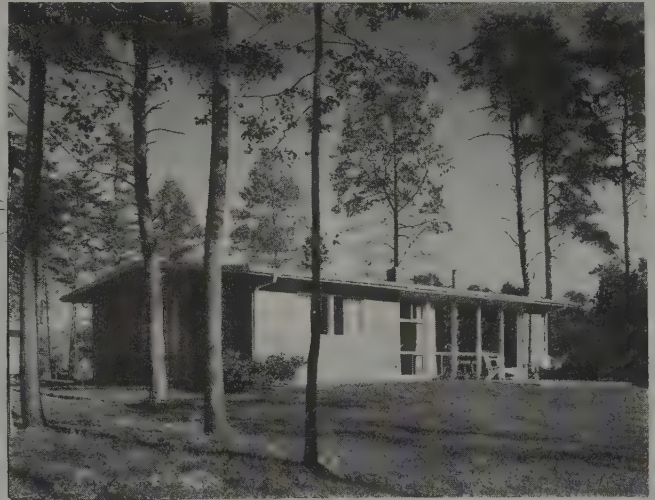
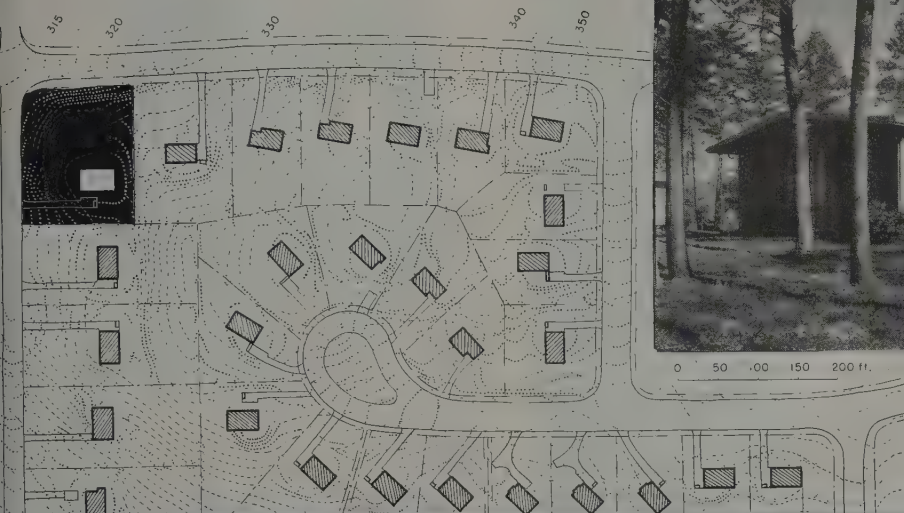


**Builders put best foot forward with model house.** The Luria Brothers put full responsibility for the model house on their architects who sited the house on its lot, chose the particular model to go there, did the color schemes outside and inside, and also took over the entire job of decorating. The 55-acre project will have 125 houses when completed, with a total of 20 variations that sell from \$15,250 to \$20,500. Houses are improved versions of builders' last project.

*continued on next page*

*Photos: Robert C. Lautman*

*Plot plan (model house upper left) shows small section of project*



*Photos above and below are opposite sides of model house. (Front view with car in carport is lower right, page 146).*







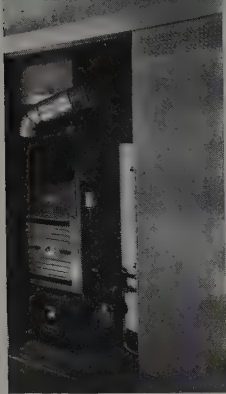
*This is smallest of the three bedrooms. It shows floor to ceiling windows which in this room open only at bottom. Room seems larger than it is because of sloping ceiling and white planking, which is more popular with buyers than dark ceiling.*

*Photos on these two pages are of the model house, which has 1,066 sq. ft., is built on a slab, sells for \$16,750. View above shows portion of living room from the dining area. View from large windows of all houses is usually like this. Below: the fireplace faces the window wall.*

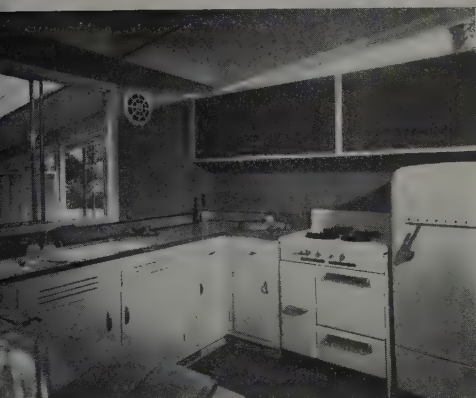


*Opposite view from upper left photo. This shows how fixed vertical louvers on the carport create a baffle from house, shutting out sight of automobile and creating a more dignified entrance. Open roof framing beyond door ties house and garage together yet lets in light.*





Architects designed an excellent treatment for furnace room, which is opposite kitchen. An inconspicuous sliding metal door, with perforations top and bottom, uses the same overhead track as curtain that shuts living room off from kitchen.



Kitchen is well arranged, is equipped with range, refrigerator, double sink, garbage grinder and exhaust fan. As in all other rooms, storage here has been carefully planned by the architects.

**Steady market for contemporary design.** The Lurias know from experience that modern designs will sell in Washington, D. C. Two years ago they began building some 205 similar houses at Holmes Run, not far from this new development. With Regulation X forcing big down payments, sales set no national records but were steady, and enough to keep well ahead of construction. In fact, the fresh new designs sold so much better than conventional houses in the same price class that at least four other builders decided to follow the leader. Buyers constantly sent friends to the sales office—a new experience for the Lurias.

When the Lurias began looking for new land they decided to get the best they could find, for the success at Holmes Run convinced them that people will gladly pay extra for good land.

They could have repeated last year's models without any changes. But they wanted to do better. So, with the architects' constant encouragement, they decided to make their basic house 160 sq. ft. larger, with larger living room, bath and bedrooms. They added several new models, improved the variations, restudied the entire carport planning, put in more cabinets and better millwork and decided to do a better color-styling job.

**It is one thing to want to do a better job** and another thing to be willing to pay for it. The Lurias deserve special credit for being willing to back up their good intentions. "Most builders try to cut down on every item," said Eli, "but we have found when you spend more you get more."

What the Lurias did that is unusual in builder circles is to trust the architects with numerous details that designers do not usually do. Satterlee and Lethbridge, representing the architectural firm, spent dozens of hours studying the 55-acre strip and the contour maps. Then they suggested where the roads should go, how the lots should be divided, where to put the apartments and the row of stores. FHA at first did not want to go along with the street plan but then approved it because of the success of the Holmes Run layout and house orientation. County requirements are that lots be at least 10,000 sq. ft. but most of these are 14,000.

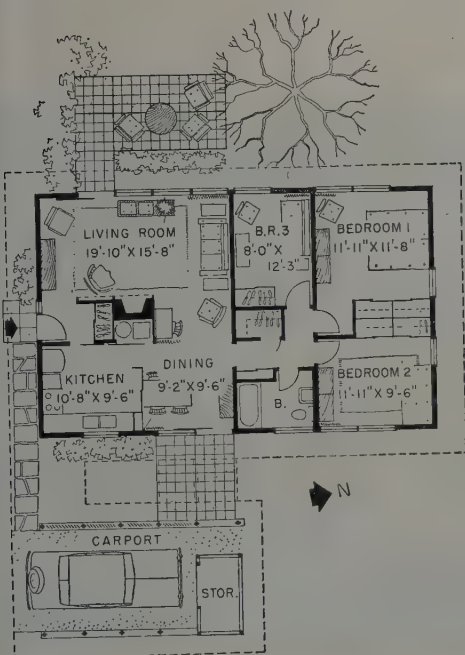
The architects delivered three times as many drawings per model as they did for Holmes Run. This makes for better detailing, better houses. It was this kind of careful designing that impressed FHA and brought its co-operation.

Satterlee and Lethbridge supervised the construction of the first houses, chose the color schemes for the entire project, and took full responsibility for furnishing the model house, whose photographs are shown on these pages. They also worked out the sales literature.

**The architectural firm received \$5,600** for the drawings, \$3,600 for site planning, and got a fee of \$50 per house for continuing supervision, preparation of color schedules, advice on landscaping and general help in setting up the operation. This is \$124 per house for the 125 houses and not excessive for the vast amount of work done. If the Lurias should use these same designs on a subsequent project, as is probable, their design cost would drop considerably. The builders would rather pay skilled architects who make a long-term contribution than salesmen. The Lurias are now selling four or five houses a week at an exceedingly low sales cost. They say they are doing well compared with other Washington builders.

One design job leads to another. Pine Spring is the second group of houses that the architects have done for Luria Brothers. In addition they have also done a small group of houses for a third Luria brother who has his own firm. For Gerald and Eli they have designed the five apartment buildings and the stores as part of Pine Spring, and are now doing a medical office building and another apartment. Both the brothers have also had new houses designed for themselves. There is little doubt that as the architects help the builders to prosper, there will be a continuous program of design work. The moral to architects who doubt the wisdom of working with merchant builders would seem to be: get 'em when they're young and on the way up and they'll give you business as they prosper.

*continued on next page*



**What architects can do with one basic plan.** Although Pine Springs has five plans, numerous variations, one- and two-level houses and a variety of carports, there is one basic style. This makes work go faster for the mechanics, simplifies the assembly of framing panels made in the cutting yard and gives the Lurias the benefit of larger purchasing.

The two-level houses are specially successful. Where many builders would have scooped the top off the gentle slopes, knocked down trees and put in one-story houses, the architects designed houses to take advantage of the slope. They took what is essentially a one-story house with a basement and turned part of the lower floor into a large room. This downstairs room can be a study, a playroom, a place for entertainment or it can be partitioned off to include a fourth bedroom.

In the sketch at the lower left on the opposite page is a view of one type which uses the lower level for both a large study and for an additional bedroom. The bedroom is at the lower right, using the space which the garage has in the house shown in large photo above. A carport is added to replace the garage.

This excellent use of basement space should be copied by many builders who have similar sloping ground but who let their houses stick out of the ground and put in small, high basement windows and in general use no imagination to develop a daylight basement. The Lurias finish their lower room in pleasant paneling and with asphalt tile and add a fireplace. Many people are glad to pay from \$3,000 to \$4,000 more for the extra rooms.

**Truss roof with post construction.** Construction is essentially the same as in the Lurias' previous development: a truss roof used with 3" x 6" posts which are bought by the carload already milled and rabbeted to size. The rabbeting speeds up the installation of the large glass walls. Trusses and wall panels are pre-cut and assembled at the site in a temporary cutting yard, where considerable millwork is also done. Five men put up the walls for one house, apply sheathing and erect trusses in eight hours. Three men and one helper sheathe the roof in one day. Walls are insulated, have cypress or redwood siding. Heating in the basement houses is gas-fired forced warm air, and in the slab houses is counter-flow, with concrete ducts under the slab leading to registers in the outside walls.

*View below at left is front of model house, which is turned with narrow end toward street. Widely extended roof over carport creates illusion of much wider house. On right is same plan turned with wide side to street, same size carport but no breezeway. All have outdoor storage.*

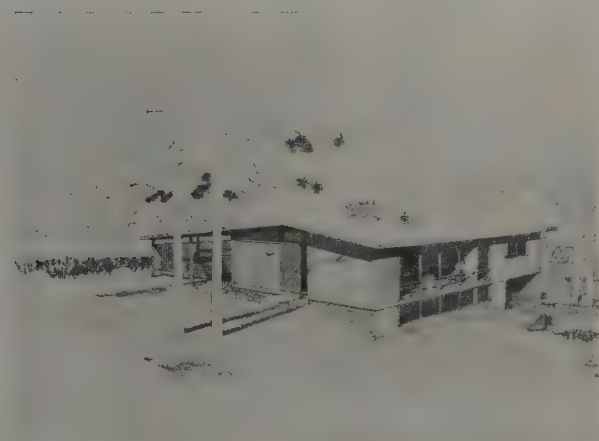
Photos: Robert C. Lautman







Many builders who "throw away" good basement space can profit by study of the house above. Basement has been turned into attractive, paneled all-purpose room with fireplace. Another version of the same house is below, showing model with garage space converted to bedroom, carport added.



Construction is of framing panels preassembled in builders' yard of 3" x 6" posts rabbeted at sawmill. Trusses are two 2" x 8" spaced 4'-1/2". Ceiling is of 2" x 6" planks with roofing felt plus built-up roof. Overhangs are 2' or 3' on all sides. Roof pitch is 1 1/2 to 12.

# Progress in air conditioning

Builders and manufacturers reach

new agreements on their joint problems



Just announced for the merchant builder market, is Carrier's two-ton unit, 3' square, 5' high, with both heating and cooling inside a neat package. (See p. 188 for complete story.)

"If we are to sell more than 700,000 houses next year, we must offer new things that we don't now have." So said NAHB president Alan Brockbank at a conference of merchant builders and air-conditioning equipment manufacturers in Chicago, Oct. 3. "We can pick up from 300,000 to 400,000 additional sales with new products such as air conditioning," he suggested. "There is nothing our customers need more than air conditioning, especially in warmer parts of the country."

"Air conditioning," Frank Cortwright added, "is not only the most exciting but also the most important new idea in housing today."

From the meeting came new statements as to what the builders want, what the public wants and what the manufacturers can provide.

An important step forward was the appointment of a joint committee on which Dick Hughes, Martin Bartling and Cliff May will represent builders; John Gilbreath, S. J. Levine and A. E. Meling will represent manufacturers; with William Henderson representing the Air Conditioning & Refrigeration Machinery Assn. and Lee Miles, Keith Davis and A. R. Gilkerson for the National Warm Air Heating & Air Conditioning Assn. Consultants will be R. W. Roose and Bill Nessel. This committee is already at work. Among its first duties: to prepare material for the annual NAHB convention which will be held in Chicago in January.

## "Musts" for the air-conditioning system

Builders and manufacturers agreed on these points:

**Space:** the combined heater and air conditioner must not take more than 12 sq. ft. of floor space.

**Accessibility:** the unit must be located so that a serviceman can get at it easily and have room to work. He should not have to go through the main living rooms.

**Noise:** builders should avoid a central location for equipment since the noise of the steadily operating unit may prove to be a nuisance, especially if there are louvers in the equipment-room door.

**Initial cost:** because the largest untapped mass market for air conditioning is in houses from \$10,000 to \$12,000, the total bill for both heating and cooling installed must be under \$1,000 for such houses. The lower the price, the larger the market.

**Operating costs:** while no one is yet sure how low such costs must be, all agreed that they must be kept to the lowest possible figure. If operating costs are high, FHA and VA will penalize the buyer of air-conditioned houses by insisting that he have a higher income.

**Efficient, compact, automatic:** manufacturers agreed that equipment should be in a neat package, should be as efficient in its operation as a refrigerator or a warm-air heater and that it should be automatic. It should maintain a maximum 80° temperature with 50% humidity.

**Fewer extra costs:** "The thing that's killing air conditioning is all the extra cost after the unit leaves the factory," said builder William Farrington of Houston. "The connections should be as simple as an automatic washer's." Everyone agreed that the plumbing and wiring hookups must be as inexpensive as possible.

## Sales appeal vs. efficient design

"We must have air-conditioned houses that will sell," said chairman Ned Cole. "If a design feature won't help sell the house, we throw it out."

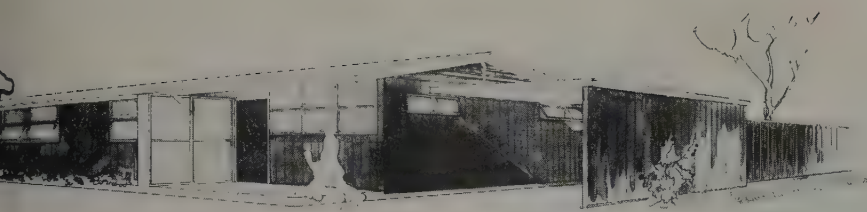
An air-conditioned house is usually a compromise between what is best for the cooling system and what buyers want. A windowless house might be ideal to prevent heat gain, but no one would buy it.

"While manufacturers say fixed windows are best, FHA in our area of Texas won't accept stationary windows," said Dick Hughes, who opened the meeting. Windowless west walls reduce solar heat gain, but several builders said customers do not like them.

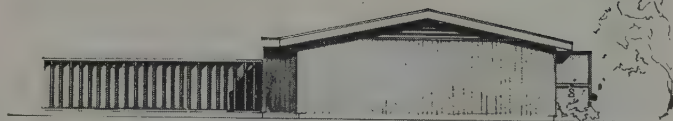
## How large a unit for the builders' house?

Residential air conditioning for houses of 1,000 sq. ft. or less is still so new that no backlog of experi-





**Builder Dick Hughes** exhibited these preliminary sketches for his new air-conditioned house and asked for comments. Engineers praised these design features: white roof, wide overhangs, ventilated attic, high windows which admit less direct sun, a windowless west wall, well-shielded east windows, roof and sidewall insulation. Air-conditioning engineers advised that in a well-designed house the size of the cooling unit could be reduced by one third or more which also drastically cuts the operating expense.



**WEST ELEVATION**

ence exists. Manufacturers' engineers do not yet know size requirements for houses in different parts of the country.

Several builders have reported successful summer cooling with units of less than two tons. Builders Fonde & Bartling of Knoxville cool their 1,000 sq. ft. houses (of which only 825 sq. ft. is actually in the rooms) with a one-ton unit centrally located. About 30% of the wall area is windows. Houses are well insulated, have wide overhangs and double glazing and are weatherstripped.

#### **Air cooled vs. water cooled**

Because of water shortages and high operating costs in many areas, builders have shown great interest in air-cooled units. Large parts of the Southwest are short of water, and in all areas FHA is likely to penalize a unit which promises high monthly costs. Consequently several manufacturers have already produced an air-cooled unit or have one in the design stage.

A builder will be moved to improve his construction 1) so that he will be able to get away with less cooling tonnage, and 2) because he will then be able to use air-cooled equipment even in its present stage of development. Air-cooled units work more efficiently in small sizes than in larger sizes.

#### **Watch the moisture**

Heat and moisture from kitchen, bath and laundry can be a serious problem to residential cooling, especially in a humid climate.

Variations in humidity may make more difference in the amount of refrigeration needed in two different areas than variations in temperature. A builder in Houston, for example, needs a more powerful unit than a builder in dry El Paso putting up the same size house.

To get rid of moisture and heat in kitchen and bathrooms, manufacturers recommend installing an effective exhaust fan in each of these rooms. Stoves, dryers and hot-water heaters should be vented directly to the out-of-doors.

#### **What are the annual costs?**

Because so little is known about operating costs of air-conditioning units in various parts of the country, one of the early jobs of the newly appointed joint committee of builders and manufacturers will be to make such a survey. A recent report by Straus-Frank Co. in Houston showed that the electrical bill for an average three-ton system was \$93.90 for a six months' cooling season, and a five-ton system cost \$173 per season. A two-ton unit is estimated to cost \$60-\$70. Houston's electrical rate is 1.7¢ per KWH. To these costs must be added a very small water bill and a maintenance charge.

A survey made by Carrier Corp. in Dallas, Wichita Falls, Mobile and Lincoln revealed air-conditioning costs for electricity were lower in these cities than in Houston.

But it is well known that living in an air-conditioned house offers some by-product savings. Families in Philadelphia, for example, which used to take summer cottages on the ocean, report they no longer do so because they are more comfortable at home. Texas families with air conditioning say they no longer find it necessary to go to air-conditioned restaurants or to movies to spend a comfortable evening. There are also savings in cleaning bills for curtains, rugs, etc. For some families there are lower medical bills because of less hay fever or fewer allergies.

"Why shouldn't FHA make allowances for these savings?" some builders asked.

**Builders are invited to write the building editor of HOUSE & HOME regarding their experiences with residential air conditioning. How much are operating costs in your area? Do FHA or VA encourage or penalize air conditioning? Which features of air conditioning most appeal to the house buyer? What size unit have you found satisfactory for your house? What are your problems?**



# Warm-air baseboards

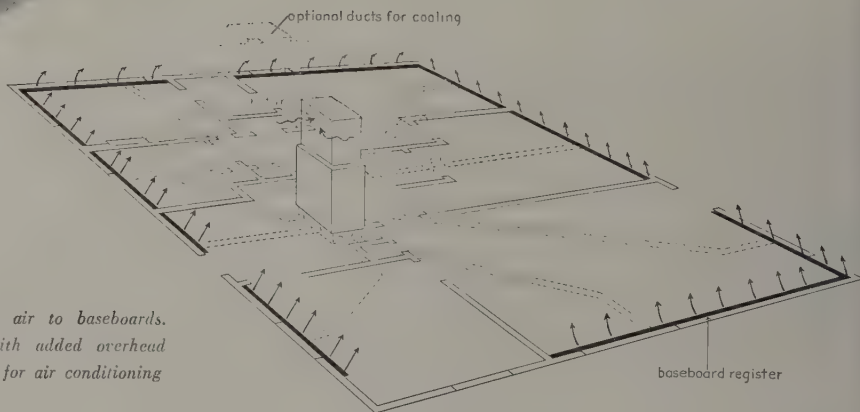
... faster than slab heat

... less apt to cause smudging

... easily reversible for summer cooling

Baseboard registers replace wooden baseboards. Warm air is discharged through openings just above the floor.

Radial ducts feed air to baseboards. Reverse system with added overhead ducts can be used for air conditioning



Here is a brand-new heating method—perimeter heating with warm-air baseboards.

*Its advantage over radiant heat in the floor:* it responds much quicker and gets more heat to the outside walls where you need it most. If the weather changes, the sluggish radiant system must change the temperature of five tons of concrete (in an average house) before changing the room temperature. Its disadvantage—less assurance against cold floors.

*Its advantages over floor-register perimeter systems:* you don't have to cut the carpets to install the system. The new system also gives a more even blanket of warm air over windows.

*Its advantages over many wet-heat systems:* quicker heat, lower cost, and summer cooling is easily added. Compared to hot-water baseboards, it is claimed that the new system blows warm air away from the walls, thus minimizing the chances of smudging.

So far only half a dozen small companies produce the new warm-air baseboards. But other firms plan to make them soon. One large manufacturer will announce its new baseboard unit in January.

## How does it work?

Perhaps the main feature of the new system is that it establishes an even blanket of warm air over out-

side walls and windows. The air enters rooms from holes or slots in the long slim metal register which takes the place of the ordinary wooden baseboard.

The warm air is fed to the baseboard registers by ducts which fan out from a central furnace like the spokes of a wheel. In slab houses the warmth from these ducts helps keep the floors warm. For the most part only one duct is necessary per baseboard since most baseboards have adjustable openings which facilitate supplying air evenly along an entire wall.

Since the metal baseboard is also warmed up to around 130°, it acts as a radiator; as much as 20% of the total heat supply is radiated across the floor, which further reduces the danger of cold floors.

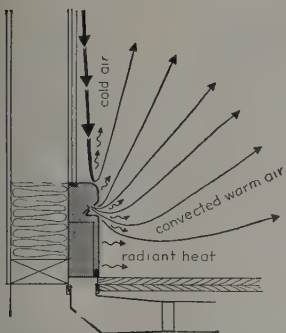
Temperature of the supply air ranges from 150° to 190° depending on the particular system. Air blows horizontally into the room for several inches, then floats upward so smudging is minimized.

## Installation is simple

The warm-air baseboard is basically just a new version of perimeter heating; builders can use it in any type of house—slab, crawl-space or basement.

The metal baseboard is generally of 20- or 22-gauge steel designed for use with either plaster or





Warm supply air neutralizes down-drafts. Radiant heat from metal baseboard warms floor.

Sidney Studios



Directional vanes apportion supply air evenly to both halves of each baseboard. Depending on the manufacturer, baseboards have round, square or slotted openings.

Warm air from baseboards will blanket entire width of picture windows. House below by General Construction Co., Michigan City, Ind.

Metal baseboards can be used with wet- or dry-wall construction, are installed under all or most of outside walls depending on heat needs.



dry-wall construction. Conventional furnaces are used with either small or large ducts. Velocities naturally will be higher when small (4") ducts are used but the baseboard unit acts like a transformer in any case, converting high-velocity air into a slowly moving stream as it enters the room.

If the furnace is centrally located, builders may save up to \$100 in a small house (more of course in a larger one) simply by eliminating excessively long duct lines. As with other perimeter systems, only a single return near the middle of the house is required.

Engineers recommend that the return grille be located high on an inside wall; the devitalized warm air which normally stratifies near the ceiling is then quickly pulled back to the furnace.

### Reversible air conditioning

With baseboard heating installed, a builder can easily provide for year-round air conditioning. High inside wall ducts may be added as shown in the diagram on the opposite page. The homeowner merely reverses the air flow during the summer, and cool air is supplied from these interior ducts. After falling to the floor the air is withdrawn by the baseboard ducts and returned to the furnace.

### Costs

These metal baseboards are currently priced at from \$1.50 to \$2 per ft., the actual length required depending upon the heat loss from each room. Manufacturers expect prices to come down as production increases. Other than the baseboards, total installed cost is a little more than a perimeter system with the same furnace and similar ducts.

### Some sample prices:

- ▶ In Youngstown, Ohio, International Homes installed baseboard heating in 26 slab houses selling for \$9,950. With 4" ducts and a gas furnace, total cost averaged \$480 per house.
- ▶ In Quakertown, Pa., total baseboard heating cost averaged \$550 in three-bedroom \$12,000 houses of which \$390 was for material including the furnace.
- ▶ In Stoneham, Mass., builder Peter Savelo pays \$740 to \$900 for baseboard systems in ranch-type houses selling for \$13,000-\$19,000.

Other builders in various sections of the country have thus far reported excellent results with this new system—even in Alaska where it has been tested against frigid subzero winters.

# The Housing Research Foundation suggests—

**some ways builders could help manufacturers tap a new market—  
and manufacturers could help builders offer more salable homes**

*Excerpts from "New Frontiers for Home Builders" by C. W. Smith,  
published by the Southwest Research Institute, San Antonio, Texas.*

**It is not a small market you builders control: \$6 billion in an average year. Manufacturers who ignored this market in the past are beginning to consider how they can better serve you. They are anxious to produce the items you want, but find it hard to establish two-way communication to learn your needs.**

Here are a few suggestions to both builders and manufacturers:

## **Builders want ranges and refrigeration built in**

Kitchen ranges and refrigerators for the most part are still designed to be installed in houses already built. Yet every new house must have a range and a refrigerator, just as it must have a bathtub. Today no builder would think of trying to sell a house without a built-in bathtub. The same thing will happen with kitchen ranges and refrigerators. This will require, of course, wider adoption of the "package" mortgage and also more general inclusion of this type of equipment in FHA appraisals.

With unitized kitchen ranges the oven can be waist high where it is more convenient, and the dirt-catching spaces which existed around the old-fashioned "streamlined" kitchen range can be eliminated. Most model houses utilize these ranges, and there is no doubt that the public prefers them. As volume production is achieved the price will undoubtedly be reduced.

Appliance manufacturers will some day discover a potential market of one million refrigerators a year to be built into the counter space as an integral part of the kitchen and with convenient drawer compartments. Present-day refrigerators are unsightly and waste space, and it is hard to move and clean around them. They are also inefficient because cold air spills out every time the housewife opens the one large door while she juggles articles around to find things on the back of a shelf.

## **. . . and better planned kitchen cabinets**

*Millwork companies could logically furnish a great variety of components which would be helpful to you homebuilders if you would define your needs specifically and convince them that you offer a ready market for a reasonable volume of production.*

Kitchen cabinets are standard equipment in every new house but their convenience still leaves much to be desired. Base cabinets too often have doors and inaccessible shelves instead of convenient drawers. Countertop space under the wall cabinet could be utilized more efficiently to store electrical appliances—a storage need almost universally ignored.

Other millwork items builders need include storage-wall interior partitions, better awning-type wood windows, front door frames with fixed glass areas next to the door, roof trusses and modular-engineered exterior wall components.

## **Builders want more efficient windows**

Windows have always been a problem, not as a source of light, but because people insist on opening them for ventilation. Dissatisfaction with the double-hung window is almost universal. Casement windows permit better ventilation, but involve operating and screening problems and offer no advantages in convenience or protection. Awning-type windows are a great design improvement, but the screening, hardware and weatherstripping problems still remain. Metal windows offer no design improvements over wood windows, and they are unsatisfactory in cold climates because so far no manufacturer has produced one for houses that is thermally insulated between the outside and inside surfaces of sash and frame.

When houses were built of stone or logs, openable windows were doubtless the easiest means of providing ventilation. Today windows should probably be designed only to admit light and permit a view. Fixed glass areas seem the most logical solution, with separate or adjacent ventilation units equipped with fixed screens and louvers for weather protection. Such ventilating louvers in exterior walls could be either above or below the fixed glass where, in all likelihood, they would ventilate the rooms more efficiently than openable windows in the middle of the wall. Combination frames with fixed glass areas and ventilating louvers are already available from one or two sources and there is an expanding market for the production of similar designs by millwork companies which could make these units available in every part of the country without excessive shipping costs.

## **. . . and doors that won't warp**

Builders throughout the country report that domestic slab doors warp, particularly when exposed to the weather. To get satisfactory slab doors many have imported them from Finland and other foreign countries. Surely this is an opportunity for some domestic manufacturer.

## **Builders want waterproof wood finishes**

In recent years paints have been improved considerably for both interior and exterior use but we still need a good weatherproof natural finish for exterior woodwork. The warmth and grain of natural wood can contribute a great deal to the beauty of a home; yet so far there is no satisfactory method of finishing this exterior woodwork to make it weatherproof and still retain its natural color and grain.

Scientific research should be devoted to this problem because we feel confident it is not insoluble. A fruitful field for exploration should be some of the new silicone products or fluorocarbon

*continued on page 154*



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## HOUSING RESEARCH *continued*

derivatives. Adapted to waterproofing masonry walls, these offer antiwetting and durability properties while still permitting the surface to "breathe."

### Even bathrooms could be better

Although plumbing fixtures and bathroom equipment have been improved a great deal, there are still opportunities for new products. For example, in the old-fashioned medicine cabinet it is necessary to open the mirror door to get to the shelves. Frequently, especially in lower-priced houses, the mirror is too small to serve any useful purpose and the shelves inadequate to hold the things people try to put on them. Now, with wider acceptance of the new vanity type of lavatory, we should be able to install a large fixed mirror on the wall and provide more convenient storage space in drawers under the vanity.

Toilet tanks that hang on a bathroom wall are noisy, occupy valuable room space, and tend to drip condensation water on the floor during humid weather. You can definitely look for toilet tanks to be eliminated through the development of an economical, quiet, low-pressure flush valve, or, at least, to disappear into a wall recess or to be hidden in a wall cabinet. Either way they could be insulated thermally so that warm, moist air could not condense on the cold tank and insulated acoustically so that the noise of the tank refilling could not be heard all over the house.

### Builders want variable control furnaces

*Some manufacturers have tried to sell products such as heating units rather than trying to sell comfort, livability and economy.*

That is one reason why many heating units do not perform more satisfactorily. On automatic hot-air furnaces the intermittent operation of the burner and fan is noisy and unnecessary.

Especially on gas-fired units, it should be entirely possible to provide a variable control on the burner. There is no reason why a gas-fired heating unit could not be modulated automatically to compensate for moderate or extreme cold. And the volume of air circulated from the heating unit could be modified through a variable speed fan.

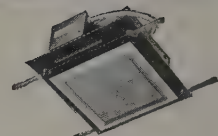
### ... and less humidity

*Often manufacturers of one piece of equipment do not consider the over-all problem.*

Manufacturers of heating units, for example, could help to reduce the humidity in houses in the wintertime. It would be relatively simple for them to educate their dealers to install these units so that a small percentage of outside air could constantly be introduced

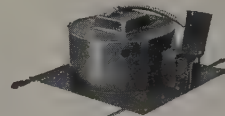
*continued on page 158*

## Pry-Lites RECESSED LIGHTING FIXTURES (1000 Series)



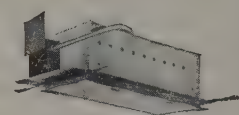
Model 1000—100-150 Watts

**PRY-LITES  
U. L.—I. B. E. W.**



Model 1054—100-150 Watts

**PRY-LITES  
install faster**



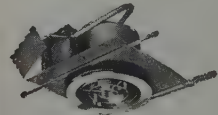
Model 1003—2-100 Watt Lamps

**PRY-LITES offer a wider  
choice of glass patterns**



Model 1067—200-300 Watts  
Top or bottom relamping  
for commercial jobs

**PRY-LITES fit  
any finish—1/2" to 2"**



Model 1055—A louvered fixture,  
Uses R-40 or PAR-38 lamp

**PRY-LITES feature  
"snap-up" fronts for  
easier cleaning and  
relamping**

For Details See  
Sweet's Builders' File 41  
Sweet's Architect's File 31a  
or write  
PRY

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## LAKE MEADOWS has selected Frigidaire refrigerators for the first two 12-story apartment buildings in new Chicago community

Recently, work started on the Lake Meadows project which is being constructed on Chicago's south side by the New York Life Insurance Company. This is Chicago's first redevelopment undertaking in partnership with private enterprise. When completed, a modern community on a 100-acre site will take the place of a once blighted area.

The first two 12-story buildings now under construction will have 238 apartments (2 to 4½ rooms). Approximately 54% of the exterior wall surfaces of both buildings will be glass. Plans call for concealed radiation, many room-width picture windows, and a new Frigidaire Refrigerator in each apartment.

More and more builders are finding Frigidaire Refrigerators

ideal for modern apartments. These streamlined, handsome refrigerators offer maximum storage space — and yet they're compact, designed to fit easily into today's smaller kitchens. And Frigidaire Refrigerators are famous for low-cost, trouble-free service. This economy and dependability are especially important to builders of apartments with a great number of kitchens.

For more information on Frigidaire Refrigerators and the many other Frigidaire household appliances, call your Frigidaire Dealer, or the Distributor or Factory Branch that serves your area. Look for the name in Yellow Pages of your phone book. Or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Toronto 13, Ontario.



*Sketch of typical kitchen in Lake Meadows, showing new Frigidaire Refrigerator. To residents and builders alike the name Frigidaire means "top quality" and the last word in modern convenience.*

## FRIGIDAIRE Appliances — Refrigeration and Air Conditioning Products

Refrigerators • Electric Ranges • Food Freezers • Water Coolers  
Home Laundry Equipment • Electric Water Heaters • Air Conditioning  
Electric Dehumidifier • Commercial Refrigeration Equipment

Frigidaire reserves the right to change specifications, or discontinue models, without notice

in small homes...in large apartments...stores or hotels

# You Save 3 Ways...

when you use beautiful, modern

## GLIDE-ALL

*Sliding Doors*

In Standard 6' 8" Height or  
8' Floor-to-Ceiling Height

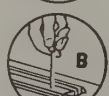


Simple to install  
as A B C

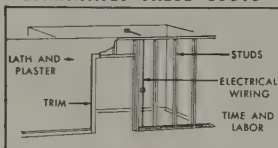
A  
Top track is  
easily mounted  
on ceiling  
with screws.

B  
Aluminum  
bottom track  
is screwed to  
floor.

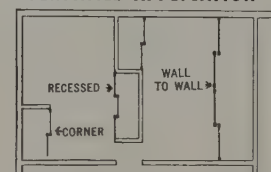
C  
Doors are mounted  
in tracks by pushing  
doors into upper  
track to compress  
top roller springs—  
then engaging lower  
rollers with floor  
track.



### ELIMINATES THESE COSTS



### VERSATILE APPLICATION



### HAVE YOU SEEN LAMIDALL?

It's the new 1/8" thick genuine plastic laminate—ideal for walls and top surfaces—write for Folder!



## 1 You Save on INITIAL COST

In spite of the beauty and durability of Glide-All Sliding Doors, they are actually low in cost because they are produced in large quantities by special manufacturing methods developed by Woodall Industries, Inc. Hundreds of thousands of Glide-All Doors are in use in homes, apartments and commercial buildings from coast-to-coast.

## 2 You Save on INSTALLATION

We sincerely believe there never was a sliding door made easier to install than Glide-All Sliding Doors. The simple, 3-step installation shown here, the elimination of costly framing and construction, plus the floor-to-ceiling heights, effect a considerable savings in installation cost.

## 3 You Save on MAINTENANCE

The simplicity of construction and the elimination of complicated moving parts make Glide-All Doors practically trouble-free. The smooth, tough Presdwood panels may be painted, papered or decorated to match any room decor. Write for all of the facts—ask for A.I.A. Bulletin No. 17-D.

Glide-All Sliding Doors are a product of

**WOODALL INDUSTRIES INC.**  
DETROIT 34, MICHIGAN

and are manufactured in the following Woodall Plants:

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Laurel, Miss., P.O. Box 673—New York, Glen Cove Rd., Mineola, N.Y.  
San Francisco, 1970 Carroll Ave.  
Address requests to plant nearest you

## HOUSING RESEARCH *continued*

into the system and moist air constantly exhausted and never recirculated.

We predict that humidifiers will disappear from warm-air heating systems because, in today's tightly built houses, the moisture given off by showers, laundry equipment, cooking and the occupants themselves puts more humidity into the air than is needed.

High humidity can greatly contribute to the deterioration of a house and the discomfort of the occupants. Warm, moist air inside the house is constantly trying to get outside when the temperature is low, because even saturated cold air contains much less water vapor than warm air. Practically no common building material is entirely vaporproof, and impervious vapor barriers are not always installed so carefully as to eliminate pinholes or cracks in the joints. Consequently, warm houses in cold climates constantly exude moisture. It soaks through exterior walls and frequently saturates insulation, rendering it ineffective. This can cause the outside film of paint to blister and peel off. Constant saturation of the insulation or sheathing can cause even more serious structural deterioration of framing members.

Dehumidifiers for summer use are still too expensive to buy and operate for general use. Eventually perhaps a better way will be found to squeeze the water out of the air so that we can be more comfortable in warm weather. In the meantime we should make every effort to reduce winter humidity by turning off the humidifiers on heating units and by providing ventilation both in the house and in the exterior walls and roof outside the insulation.

### Builders want summer cooling

There is a tremendous untapped market for home cooling, and most presently available equipment is unnecessarily expensive. If you could offer your customers summer cooling at a reasonable cost, you would have a tremendously attractive merchandising asset.

In the summertime the heat which must be counteracted comes from the sun, and an absorption type of refrigerating unit needs a source of heat to actuate it. In the past, this type of refrigerating unit was operated by flame or, more recently, by an electrical resistance heater. When hooked up to summer cooling units, why should not absorption-type refrigeration be actuated by solar heat? The sun is what makes us hot, why not harness it?

Another development in thermodynamics that should certainly be explored is the possibility of using the same cooling mechanism to cool the house, the home food freezer and the food refrigerator. A cooling mechanism pumps heat out of one place into another. While we are pumping heat out of the house, the refrigerator and food freezer, why don't we figure out a better means of disposing of it? This same heat would undoubtedly save a lot of fuel now used to heat water.



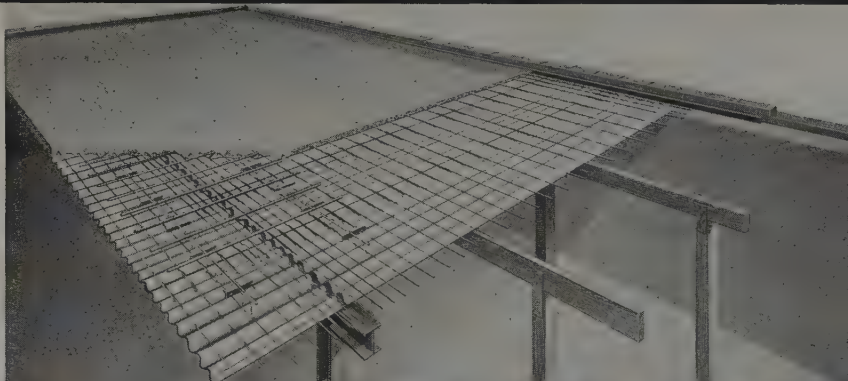
... A NEW PERSPECTIVE IN BUILDING!

# COFAR

- Reinforced concrete construction.
- High-strength, deep-corrugated steel manufactured with welded closely spaced transverse wires (T-wires).
- Positive reinforcement permanently anchored to and combined with structural concrete.
- Concrete floors and roofs without forms.

## STRENGTH UNLIMITED

COFAR! Deep-corrugated steel, 100,000 psi and stronger (the main reinforcement), and T-wires (temperature reinforcement) in one manufactured product . . . all the positive steel needed in the structural concrete slab! Design follows normal concrete structural procedures. Full range and design freedom is given concrete slab construction, with continuity and weight saving. Hot-dip heavy galvanizing insures building-life permanence. Build strong . . . build COFAR.



## TIME AND MONEY SAVED

COFAR makes concrete floor and roof construction a one-stage operation . . . no forms to build and tear down. Construction is clean and fast. Concreting in multi-story buildings moves indoors out of the weather. Large or small, your building is better, costs less with COFAR.



## SPACE AND LIGHT RECAPTURED

Bright, clean, corrugated-pattern COFAR ceilings give the new look to many homes. Fire resistant for any exposure with lightweight modern ceiling protection. COFAR saves enough head room and deadweight to add stories to skyscrapers. Business, office or residential . . . COFAR is the answer.



- *ADVICE on application and design by qualified COFAR engineers.*
- *REVIEW of all COFAR designs.*
- *ESTIMATES and COSTS for any COFAR project.*
- *KNOW-HOW from experience on many COFAR jobs.*

### OTHER GRANCO PRODUCTS

CORRUFORM for steel joist floors.

TUFCOR corrugated deck used with cementitious insulating fills for roofs.

GRANCO ROOF DECK flat-top roof deck rotary-press—UNIformed.

## GRANCO STEEL PRODUCTS CO.

(Subsidiary of Granite City Steel Co.)

GRANITE CITY, ILLINOIS

not take it. Actually there are very few. We effect savings in the nature of 80%. I think conventional builders pay \$5 an outlet, while we install them in the plant for about \$1. *If we could get prefabrication into the plumbing we could save the customer \$300 or \$400.*

**Ford:** Twelve years ago, we had a prefab that could be installed complete with fixtures to sewer for less than \$80; added to the plumbing outfit made it less than \$150 at that time.



**Baldus:** *One quarter of all houses are built by owner-builders. It is a market.*

### **To what extent does the industry fix the builder's sales price?**

**Price:** We don't permit more than a 10% net profit before federal income tax. The biggest problem is that builders are not businessmen. Most of them never make a dime. *We have a unified accounting system we force builders to use, and we police them.* Our biggest worry is that they may lose money and hurt innocent people.

**O'Brien:** We must control that sales price. If we produced a package that was economical, as most of our packages are, and then allowed those savings to be dissipated by a dealer in the field, we would lose the whole concept.

**Price:** The thing that worries me most is to have our builder buy his subcontracting right. If he goes out and makes a bad plumbing buy, a bad wiring buy, or a bad heating buy, he can flub his savings away, and then the markup gets clear out of line.

**Ott:** We police the bookkeeping, but not the markup. We found it difficult to do that. We try to set it, but holding it is another matter.

**O'Brien:** We police the markup. We try to

maintain a maximum on it. Roughly of 10%.

**Price:** We have a lot of builders working for 6% and 8%. But the reason you have to give them a 10% maximum is that you have to convince the prospective builders. They want to think they can make it that to begin with. We police the markup 98% of the time.

**Taylor:** It has been our experience that the rank and file of the builders will charge what the traffic will bear. They like to be under the market. But if you go to Washington, D. C. and set a dealer up, and he is selling for \$9,000, or he could sell for \$9,000 what is currently being sold for \$9,600, he will try to get somewhere around \$9,200 or \$9,300 if he can get the VA or FHA to up these figures in their appraisal.

**Thyer:** We can't police the markup at 10% until we get the same size as Price.

**Hall:** These two fellows who police, we have to compete with them.

### **What can prefabricators do for the builder over and above delivering the house?**

**Prentice:** For example, how many of you supply advertising material for your distributors? (There was a big show of hands.)

**Price:** We don't charge them for it, and in addition we run ads and pay for them. We have a unified accounting system. It has been voluntary and in a short time will be compulsory.

**Prentice:** Do all of you have your houses cleared with FHA and with VA so that the builder has no headaches at all?

**Renner:** There are codes in these different areas which result in the local FHA overruling the Washington FHA.

**Prentice:** I take it then that in a community

*if there is anything wasteful required by the local code, FHA instead of helping to break down aids and abets the obstructionism.*

**Prentice:** What help do you give the distributor with his interim financing?

**Price:** We have an acceptance corporation, but we only finance 30% of our entire dealer output, so we have to help them finance locally or bring in New York banks. Our first desire is that the financing be procured locally because that makes better relationships. We only use our acceptance company as the last means.

**Prentice:** If your builder cannot get his interim financing locally, you can supply it from a big lender? How many of you are able to do that? (Almost all raised their hands.)

### **Why are prefabs better for the mortgage holder?**

**Renner:** The mortgage holder knows that the house is well designed, well engineered by professionals and constructed with the best material. He knows that the home has a resale value because of its proven public acceptance. *The mortgage holder is lending money on a unit that must meet the minimum standards in many widespread areas.*

**Ott:** *Because of the speed of erection, the mortgage lender starts getting returns faster on mortgages, than on conventional homes.*

**Hall:** In Fort Wayne you pick up the newspaper and see the houses by model number and year, and advertised very much as you would a used Chevrolet. You see a 1951 "Catalina" advertised; that is about all it says. *A prefab has the advantage of a trade article; over the years anybody can look in the bluebook and know exactly what is in it and quote the market, because hundreds of people trade in it all the time. It has become a commodity.*

**Price:** The proof of the pudding is that mortgage lenders have had such a marvelous experience, these 71 or more companies that have had them. *There is a very low rate of delinquency.*

### **Is there a prejudice against prefabricated houses?**

**Price:** The only prejudice in this business is just converting the builder to a new way of building houses. The public accepts prefabs any place we go. Sell the ladies. They buy the houses. It doesn't make much difference about the men.

**Ford:** You sell your bankers, dealers, lumber dealers, and the banks and you are all set.

**Prentice:** Do you have no problem with the consumer when you first go into a town?

**Price:** No.

**Mainland:** One of our dealers is the leading





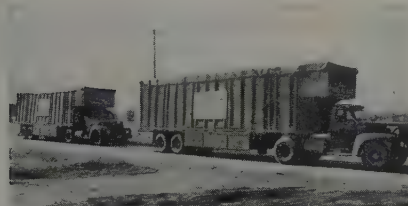
**Lytle:** In some areas prefabricators can probably save the consumer 20%.



**High-speed machinery** in modern factory saws, bores and notches lumber to close tolerances.



**Wall panels** move through paint spray for prime and finish coats.



**Page & Hill houses**, one to a truck, travel up to 700 miles from the Minnesota plant.

**Many prefabs**, like Gunnison's below, are brick-veneered by builders.



builder in Adrian, Mich. For approximately six months following our dealer's first model opening, the prospective customers were against prefabrication. After a few houses were constructed in the rough stage, people began to notice the sturdy construction and the speed of erection. The builder, without any need for local advertising, began to sell the houses because they were selling themselves.

**Price:** Last year our budget for educational

### What areas are prefab territory?

**Prentice:** What is it about Fort Wayne that makes it the first city in the US that I know of where you prefabricators take almost 100% of the business?

**Price:** I can name you ten towns where we started dealers at the same time, and they have the same thing. We control the small house market in Lafayette, in Joliet, Ill. Lansing, Mich. is no different, and neither is Battle Creek. I know that Gunnison has done particularly well in Grand Rapids.

**Prentice:** Can you compete in Long Island?

**Ott:** I would say that would depend pretty much on the concentration put on in a locality by the various prefabricators. Indiana has more prefabricators than any other state. There are not very many prefabricators in the East while a majority are located in the Midwest. Long Island is quite a distance away and we have concentrated in the Midwest.

**Price:** I would say the high regional concentration is equally divided between Indiana, Illinois, Michigan and Ohio. It doesn't make a bit of difference where the plant is. The biggest shortage this industry has is trained personnel; we can expand only as fast as we can get competent salesmen and servicemen.

**Hall:** You can only stretch your manpower so far, and a product that is hard to ship is at a disadvantage when shipping long distance. Plot the location of the plants and you plot the location of the concentration.

**Taylor:** In selling prefabricated houses, as in

advertising was \$1½ million, and this year it will be \$1½ million. *People in many new towns where we have no dealers send in requests for our houses.* So the usual thing today is that when a builder finally comes in to us he has six sales in his pocket. We are getting most of our builders through that method. I have found from studies made across the country that the public is 20 to 40 years ahead of the builder. Not necessarily ahead of the banker today, but even the banker was in that category in 1947 as far as acceptance goes.

selling other products, you have favorable climates and you have unfavorable climates. For instance, take Long Island. In the first place, you have got some nasty code problems there. Plywood is banned from a great deal of the area by the code. Levitt concentrated there for the most part. In addition to that, practically all the labor that builds houses on Long Island is labor that lumps the job. A man building 100 or 150 houses in Long Island, or 1,000 at a time will place a contract not for 150 houses with one person, but 15 with this one and 15 with another. And a man may have three or four sons or two or three brothers in the deal. I don't mean that cannot be broken down, but the builders on Long Island are committed to lumping labor.

**Prentice:** Indiana is the state with the biggest proportion of prefabs?

**Travers:** Yes, I would say at least 30% are prefabs.

**Hall:** I would say Ohio was second.

**Taylor:** In the places where the prefabricating industry is active in merchandising their product, they are doing about 25%.

**Prentice:** And you do particularly well in Pennsylvania?

**O'Brien:** Yes.

**Price:** So do we. In Springfield, Ill. we provide them with 40% of all their applications. In Indiana we give them roughly 33% and we are really going up in Chicago.

### Can prefabricators crack codes—Chicago, for instance?

**Price:** We can crack Chicago. We first had to get blanket approval on the suburban code, and then the county code and then FHA and VA gave us full valuation. Then we had to get a contract with the labor unions to handle it because Chicago is different from any other

place in the world. Our total shipments there this year will be over 500, and it is going up by leaps and bounds. *Chicago is the biggest market for prefabrication in the Midwest.*

**Prentice:** It seems the Chicago market is now



**Anderson:** Prefabbers take a builder who doesn't know his costs and change his methods.

ripe for the plucking. Are there any other major markets? I can see a lot of ground-work has to be done before you can move in.

**Price:** It takes several years. I would say work has been done for two years in St. Louis, Detroit and Cleveland. We have blanket approval in Cleveland over every past obstacle.

**O'Brien:** Washington, D. C. is one of the richest markets right now.

**Hall:** The large metropolitan area with the racketeer code has always been the hard one to crack. In addition to that, the little suburbs of the large cities which have a fire station for the city hall are hard because they have big-city ideas and small-city people.

**Price:** One of the big things that helps us is the blanket approval we got from the Pacific

Coast and different codes. We are about to get approval in the Southern code and the New York State code and we cracked it in Massachusetts. In six months we are going to get over the hump in New Jersey. We have had the head of our code department working full time for two years "cracking" codes. Yet a lot of troubles have been over 2 x 4 studs; we have used 2 x 2's and 2 x 3's.

**Prentice:** If I were a conventional home-builder, I think I would be a lot more scared knowing that prefabbers had taken over 30% of the State of Indiana.

**Price:** Why scared? We have not taken over anything. Homebuilders using prefabrication have taken over. We don't build a house, we don't sell to a private individual, we build for builders and sell to builders.

**Hall:** You wouldn't be scared; you would become a dealer.

### Are climatic differences against the general adoption of a standard prefab house from coast to coast?

**Prentice:** Aren't most of the existing prefabricated houses primarily houses designed for the part of the country northeast of Memphis?

**Ott:** Our feeling is that eventually we will have to get a home designed for the specific area where it will be erected. I don't feel that we can continue to take a northern house and ship it down south. To be in keeping costwise with their very low-cost homes and in keeping architecturally, we feel that we are going to have to design a house that is more in keeping with the Florida or southern area if we want to operate down there.

**Prentice:** Do any of you design regional houses? (Mr. Taylor and Mr. Thyer raised their hands.)

**Taylor:** The type of house they build on the Pacific Coast today is not very well adapted for prefabrication. In a lot of the areas, they will throw up a framework, put some chicken wire on the outside of it and splash some stucco against it and that is a house. I don't mean it is not a potential market, but the area you are talking about in Ohio, Illinois, Indiana and Michigan is a different climate. We don't do much business out there on the Coast.



**National Homes** sells its dealers an easily installed, one-piece moisture barrier to cover the slab.



**Builder** who buys full-width panels with siding and windows may use mechanical cranes or large crews to install them.

### Will air conditioning be a feature of prefabs in the near future?

A show of hands indicated a majority were working on including air conditioning.

**Prentice:** How much more do you think it will cost for year-round air conditioning than for present heating plants?

**Thyer:** For a three-bedroom house, \$500 to \$700.

**O'Brien:** I would say \$400 to \$600 for a 900 or 1,000 sq. ft. house.

**Prentice:** In other words, your builders are supplying heating now, and if they turned that heating system into a year-round air-conditioning system it would cost \$400 to \$600.

**Price:** We are considering it, but it is a matter of price. When it gets down to about \$100 or \$200 difference, we will have it.

**Hall:** We sell a two-bedroom house under \$7,000 and three bedrooms at \$8,000. There are other things that come first before air conditioning when you are trying to get under that absolute borderline.

**Best:** We have model homes up now for the public to criticize and take apart for us and they include air conditioning. We had about 6,000 visitors for National Home Week and the acceptance was very good on air conditioning. That particular house is 900 sq. ft. and air conditioning will cost \$600 more. It works in connection with a down-flow furnace, and the furnace fan will do the job for the cooler. So it is very economical to use, and it doesn't take any space. It just hooks up to the top of the furnace in a small utility room.



**The truck tractor** that delivers house has mobile crane that quickly swings panel off truck and into position.



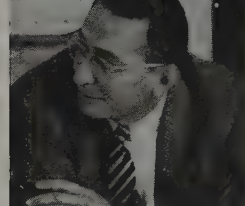
**Knox:** We have a test model with air conditioning. It is not offered to the public.

**Renner:** We are certainly exploring air conditioning. We feel it is a coming thing.

**Travers:** We will not sell a slab house unless they take a washer and drier. We feel the house is not well planned unless it has them

in the utility room. If you get a woman in a utility room splashing around with an old-fashioned washing machine, you will see why.

**Price:** We put a new combination washer and drier in our 1953 house and were able to sell it cheaper than the 1952 model. In addition we have shipped over 25,000 specially designed furnaces. We ship kitchen cabinets, too.



**Travers:** *We will not sell a slab house unless the buyer takes an automatic washer and drier, too.*

## Do prefabricators supply free help to their dealers on land planning?

**Ott, Price, Taylor:** We do.

**Price:** We actually get the raw land subdivided and approved by FHA land planning. Then they send the plan of lots to us and then we

locate the houses to show the architectural design, setbacks, yards, color styling. We do the whole ball of wax and present it to our dealer. If he agrees, he builds it that way and, if not, we modify it to his desire within reason.

## What is being done to improve the design of prefabs?

**Taylor:** Our houses for next year will be modern. This year our trend was much more toward contemporary design than the year before. *There will be larger overhangs, lower roofs, and in some cases flat roofs.* Much more time will be given to the detail of windows. We turn this job over to outside architects in different parts of the country, North Carolina, Tennessee, Virginia, New York City, and we get their ideas. But we never let the architect work out the plans without an engineer because we found that the average architect will design a pretty good house but he will add about 10 or 15% to the cost.

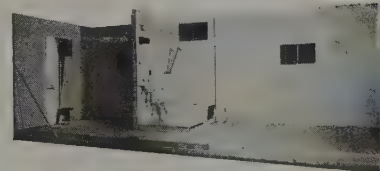
**Anderson:** *In the last three years we have spent*

*\$50,000 in architectural service outside of our firm.* If you go into a small town and look at the houses that were built by local builders, houses that cost just as much as our houses, you will find our houses are better. That is a "plus" that the homeowner gets in prefabrication that he does not get elsewhere in the same price range.

**Prentice:** It seems to me one of the outstanding new developments in prefabrication is the way you are becoming design conscious and taking advantage of that. *You can absorb design costs at very little added cost per unit.* I think the competition of your better-designed houses is going to improve everybody's design.



**Design Ideas** originated in bigger houses are being incorporated in prefabs. Above, wardrobe storage built-ins in Harnischfeger pilot model.



**General Industries** has gone further than most in building plumbing and fixtures into its low-cost demountable house.

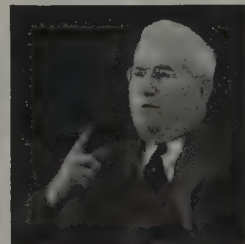
## How are costs being cut?

**Price:** We have a good vapor barrier between our coarse gravel and concrete: a special tough, asphalt-impregnated blanket made the size of an entire house. It is rolled out over that area and there is no chance of a break. We have worked out a procedure for our dealers to install our plumbing. We give them guidance in the purchase and installation of flashing. Dealers are checked primarily for plumbing and wiring costs. If a dealer is above the average, we demand that he and his plumber or electrician come in so that we can help him get the cost to the proper level.

**Knox:** Much of the high cost of labor stems from the fact that house building is very largely a materials handling operation. We are undertaking now to make much more extensive use of mechanical equipment in the handling of material so as to make it possible to build, in the factory, houses in much larger sections—the whole 32' section across the

front of the house, for instance, in one piece. The fact that all the joints are eliminated makes it possible for you to apply the finish in the factory. We have just six exterior panels: front and back, two ends, and the two gables. The exterior is all prime painted, storm windows in place, weatherstripping in, door and windows hung. Interior trim and finish surface is all on the wall. One complete house is loaded on a trailer. The truck has with it a portable boom, and when the truck arrives at the site, the truck disconnects from the trailer, the portable boom is erected and set up with a power takeoff. The truck arrives at eight o'clock and is completely unloaded at half past ten. The truck is back, normally, with us the same day.

**O'Brien:** I think that our new Harrisburg plant will be the most mechanized housing plant in the world. Steel coming in from the mill goes on rollers and houses come out the other end.

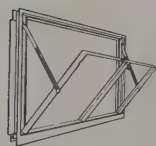


**Ahrens:** *With plumbing, painting, etc., I doubt if prefabs can cut over-all costs 20%.*

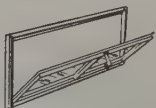
# VENTO

## THE STEEL WINDOWS OF EXTRA VALUE

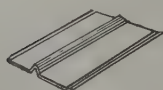
The extra value in Vento Residence Casement Windows includes: all casements drilled and tapped to receive storm sash and screens, operator arm guide channels attached with screws for easy removal and replacement, if necessary; ventilator frames constructed from the same heavy sections as the outside frame. This provides greater rigidity and stronger ventilators.



**NEW IMPROVED VENTO "CHAMPION" BASEMENT WINDOWS** give extra value because of their 14-gauge electrically welded frame, fins welded to jamb for quick installation and double contact with leak-proof watershed sill. A plus value incorporates a redesigned latch which assures positive operation under all conditions.



**VENTO "THRIFTY" BASEMENT WINDOWS** give extra value because they are a real economy window especially designed for lower cost housing. Two position ventilation and easy sash removal. Fin flanges at jambs for quick installation. Three sizes, putty type only.



**VENTO FORMED STEEL LINTELS** give extra value because they permit the use of standard 8" blocks over door and window openings. Of 10-gauge steel, with stiffening crimp in center. Also formed steel lintels for brick constructions.

# VENTO

**STEEL PRODUCTS CO., INC.**  
256 Colorado Ave., Buffalo 15, N. Y.

Also  
Vento "Champion"  
Barred Basement  
Windows; Vento  
"Champion" Utility  
and Barn Windows;  
Vento "Thrifty"  
Utility and Special  
Type Windows.  
Write us  
for full information  
and name of  
nearest distributor.

## REVIEWS

**Air infiltration through weatherstripped and nonweatherstripped windows.** By C. E. Lund and W. T. Peterson, Bulletin No. 35 of the University of Minn., Institute of Technology. 47 pp. 6" x 9". Illus \*

This booklet reports some really startling facts on the subject of air infiltration into houses. The authors point out that the tremendous acceptance of insulation over the past 20 years has radically lowered heating bills. But insulation still does not overcome air infiltration from windows and doors. Consequently cold-air leakage may account for approximately 35% of the total heat loss in a typical well-insulated house.

Weatherstripping can reduce infiltration loss to only 17% of the heat loss. There is a corresponding saving of almost 25% on heating costs.

Here are some other noteworthy conclusions the authors reached:

- ▶ Where no weatherstripping is used, three times as much air leaks through a poorly fitted window as through a well-fitted one.
- ▶ Six times as much air pours through the cracks and crevices of ordinary sash as through a weatherstripped window.
- ▶ Air leakage is so reduced with weatherstripping that the addition of storm sash makes little difference in the rate of infiltration. Storm sash, though, greatly reduces infiltration through nonweatherstripped windows. (Regardless of weatherstripping, properly installed storm sash decreases heat loss through the glass by about 50%.)
- ▶ Locking nonweatherstripped windows greatly cuts down air leakage.
- ▶ Packing strips need be installed only back of weatherstrips for poorly fitted windows.
- ▶ The optimum groove clearance which will permit reasonable ease of sash movement was found to be .025". Therefore this dimension was selected as the recommended groove clearance for rib-type metal weatherstrips.

The problem of drafts and heat loss through windows is only partly combated with double glazing, storm sash, etc.

This booklet presents the case for weatherstripping. It makes significant reading despite its scientific language.

The authors based their over-all research on climatic conditions in 12 selected cities in the US covering a full range of weather conditions. Their findings are based on tests financed by the Weatherstrip Research Institute.

Mr. Lund is a professor of mechanical engineering at the University of Minnesota and also assistant director of the Engineering Experiment Station. Co-author Peterson is a research fellow in mechanical engineering.

\* Available free on request to the Weatherstrip Research Institute, Box 101, Riverside, Ill.



# *Most Versatile Warm Air Gas Heating Unit Ever Built*

**Perfect accessibility and adaptability  
for any type installation**



#### **JANITROL FHS**

Four sizes of units can be equipped as complete winter conditioners or adapted for unit heater operation.

#### **PROVIDE UP TO 5 SQ. FT. MORE USEFUL FLOOR SPACE**

Here is the most adaptable and different gas heating unit . . . clean, simple, compact design that establishes a new standard in flexibility and economy . . . saves useful floor space, so important in today's trend to compact house designs. This greater freedom in unit placement can result in more economical installations whether for perimeter heating, conventional type layouts or the Janitrol Save-Way Air System utilizing constant air circulation with 4" duct.

It is the inherent design combination of the famous Janitrol ribbon burner, multi-

ple, heat exchangers that provide the basic principle that makes this Janitrol so universally adaptable, so far advanced of other gas heating equipment.

#### **SAVE-WAY AIR SYSTEM**

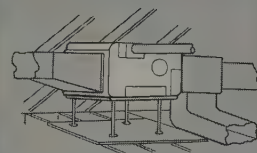
Using standard 4" round duct, installations are made faster, more compact. Constant Air Circulation from outside wall registers provide perimeter type of heat distribution. The Janitrol FHS unit is especially well adapted for this modern type of heating for greater comfort.

A typical 90,000 Btu/hr. gas-fired conditioner measures 25"x27 1/2"x65", requires 4 3/4 Sq. Ft. of floor space, while the Janitrol FHS is less than 24" high, 22" wide, 40" long, and requires no floor space.

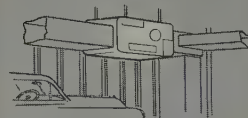
Get complete specification and performance data on the new Janitrol FHS Units, and the new Save-Way Air System. Write today.

# **Janitrol**

**SURFACE COMBUSTION CORPORATION • TOLEDO 1, OHIO**



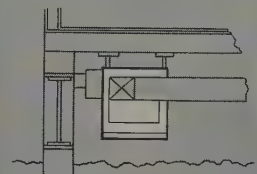
**ATTIC INSTALLATION PERMITS  
CENTRAL LOCATION**



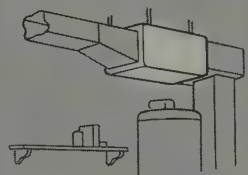
**IN ATTACHED GARAGE  
ISOLATED FROM HOUSEHOLD**



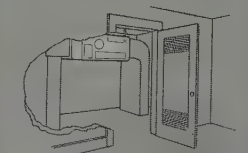
**AS UNIT HEATER SAVES  
SELLING SPACE**



**IN CRAWL SPACE,  
TUCKS AWAY WITH ACCESSIBILITY**



**IN UTILITY ROOM LEAVES  
USEFUL SPACE BELOW**



**IN CLOSET, LEAVES 5 1/2 FT.  
FOR STORAGE**

DEALER • ERECTOR  
**GENERAL INDUSTRIES HOMES**  
 THE MOST PROFITABLE **FRANCHISE** IN BUILDING

Sale price \$7990 for a three-bedroom house COMPLETE with land and eligible for 95 per cent financing!  
*That's the kind of mass appeal you have when you have a General Industries franchise.*

*General Industries* homes, all within the lowest finish price range from \$4750 to \$10,000, are the most completely prefabricated in the industry.

The *General Industries* package includes everything necessary for the completed house above the slab except the plumbing, assuring the shortest possible completion interval.

Check the bonuses you get from the *General Industries* Dealer-Erector Profit Plan . . . then write us today for full details.

- ✓ Complete finance plan, both interim and permanent through affiliated acceptance corporation.
- ✓ Sales aids and training materials for your sales force.
- ✓ Cooperative local advertising.
- ✓ Manufactured under FHA Engineering Bulletin No. SE-146

**Plus** EXCLUSIVE TERRITORY. (*General Industries' Homes are sold ONLY through dealers.*)

**PREFABRICATED DESIGN FOR FASTER BUILDING**  
**FOR FASTER SELLING**

One opening available for a manufacturing licensee for General Industries Homes in Iowa, Nebraska, or Wisconsin.



**GENERAL INDUSTRIES**  
**HOMES**



- AirRaidant Heating System
- Custom appearance inside and out
- Exclusive WUNDAWALL surfaces: Room-size wall and ceiling panels. No joints or moldings. Prime coat painted, ready for finish coat or papering.
- FHA and VA Financing

**WRITE FOR THE PROFIT PLAN  
 DO IT TODAY**

In Ohio and east write to SOD Corporation 712 W. Columbia Street, Springfield, Ohio.

In Indiana and west write to GENERAL INDUSTRIES, INC., 3034 Wayne Trace, Fort Wayne, Ind.

Sirs:

To discuss, categorically, the points raised in the editorial:

1. The figure of \$1,000 is not realistic, as no base price and minimum standard were given upon which to base an increase. However, may I point out that ceramic tile walls and floor add about \$240 over the costs of plaster wall with plastic tile and wooden floor with rubber tile in a very small bathroom; an air-conditioning compressor adds from \$329; for a small, portable, single-room air conditioner to \$2,400-\$3,000 for a compressor-type air-conditioning system (house heating and cooling)? Nowhere do you say anything to justify the assertion that the cost of the above could be recovered by the elimination of the building code.
2. The electrical code does not require ceiling lights, but does require additional base convenience outlets in lieu of the ceiling light.
3. Metallic armor is not required for house wiring.
4. Plumbing pipe and soil pipe are required only to conform to American Society for Testing Materials Standard Specifications.
5. Studs may be on 16" centers or a system of post-and-girder construction may be used. May I point out that studs serve other purposes than bearing axial loads and the spacing is determined also by these other factors, such as (a) resistance to lateral forces, (b) supporting lath and interior finish?

I would like to add that no group is more interested in co-ordinating building codes than building officials themselves, who, unfortunately, have not had much support from the general public due perhaps to the lack of a spirited program to acquaint the public with the problems concerned.

WILLIAM R. MCKENZIE  
 Building inspector  
 City of Monroe, Mich.

Sirs:

What the builders all over America want is uniformity in all cities and counties in the US. Then they would bid and build more in line with prices the public has a right to demand.

ROY W. KELLY  
 Building inspector  
 City of Colton, Calif.

Sirs:

Our Superintendent of Building Inspections intends to recommend the adoption of the National Plumbing Code.

HOHEN FOSTER, mayor  
 City of Phoenix, Ariz.

Sirs:

Although our code is a specific code, it provides for the alternate use of materials and variances in types of construction. To determine the suitability of these a board of examiners is appointed by the mayor. The board consists of a licensed engineer, builder or

*continued on page 168*



# Why they all voted for RADIANT PANEL HEATING



## for the New House!



Architect

"Keeping up with the Joneses took on a new meaning for me when they asked me to plan their new house. They knew what they wanted and they wanted the most modern of everything. But when it came to the heating system I was way ahead of them. When I explained Radiant Panel Heating they went for it in a big way!"



Wife

"I wanted what my husband did, too, but more than that I wanted *freedom to decorate*. Because our Radiant Panel heating units are concealed beneath the floor, or in the ceiling, every inch of every room is now mine to use. My rooms seem larger! I can place my furniture as I please!"



Husband

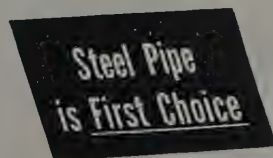
"After dreaming about building a new house for years I knew exactly what I wanted in a heating system. Comfort, warm floors, uniform temperature, freedom from drafts, more vital air, no hot or cold spots. Radiant Panel Heating was the answer."



Builder

"Radiant Panel Heating is easy to install in a new house, and my heating men *know* steel pipe. They're used to handling it. They know it's been proved in more than 60 years of hot water and steam heating applications; that it's formable and weldable for fabricating coils and grids. That's why, for radiant heating, snow melting, and other applications, *steel* is the most widely used *pipe* in the world!"

A free 48 page color booklet "Radiant Panel Heating with Steel Pipe" is available. Write for your copy.



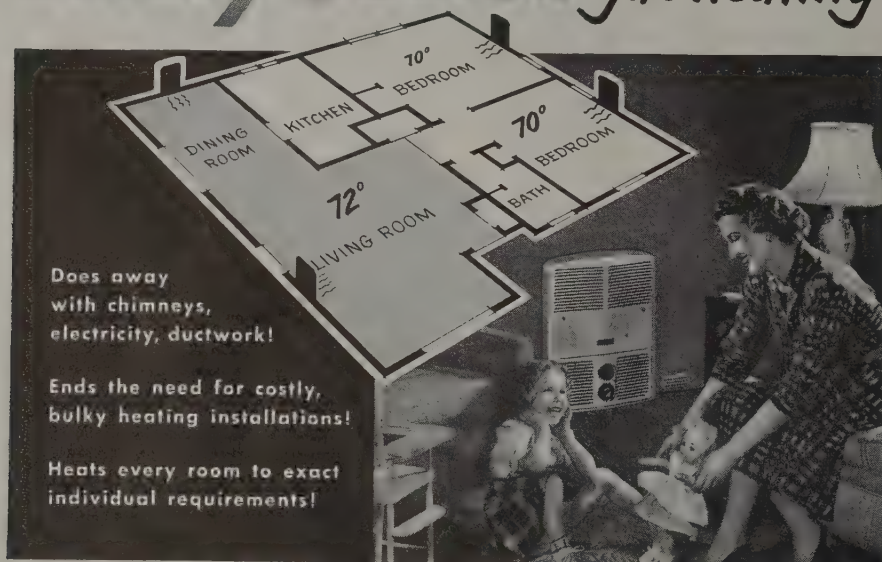
## COMMITTEE ON STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N.Y.

# Best short cut to dependable heating for small homes . . . enclosed porches . . . garages . . . motels!

## "Safety-Sealed" gas heating



**Look at them all!** Compare! Nowhere else will you find the space-saving, cost-cutting advantages that modern "Safety-Sealed" units make possible. Nor the ease of installation, operation or degree of control which enables these units to suit individual heating requirements so exactly.

**Builders** and home owners alike praise this most flexible, most economical system of perimeter heating. Acclaim its fully automatic, zone-controlled heating comfort. And all with good reason.

**Revolutionary in design,** "Safety-Sealed" units burn gas in a sealed combustion chamber—then vent all combustion products outside after use. (Room air is never used for combustion.) Efficient. Economical. They

permit quick, easy installation in any exterior wall, with no chimneys, no duct-work or electricity required.

**Designed** to give steady, warm-as-toast comfort . . . to heat cold walls . . . to stop chilling drafts, "Safety-Sealed" units operate silently, dependably on either natural, manufactured or LP gas. Have no moving parts to maintain or replace.

**Consider all these advantages now.** The savings against rising building costs, greatly simplified heating plan, plus the desirability of a heating system that completely solves moisture problems of combustion products in tightly insulated small homes. You'll want to specify and recommend "Safety-Sealed" gas heating on every job!

**STEWART** *Safety Sealed* **WARNER**  
**GAS HOME HEATING**

STEWART-WARNER CORPORATION • South Wind Division  
1514 Drovers St., Indianapolis 7, Indiana

### Get the facts . . .

Write now for complete free information and specifications on this latest development in modern gas heating. Clip and mail the coupon today.

Approved by American Gas Association



Stewart-Warner Corporation, South Wind Division  
Dept. K-112, 1514 Drovers Street, Indianapolis 7, Ind.

Please send me specifications and complete details on "Safety-Sealed" Saf-Aire Gas Heating Units.

Name .....

Address .....

City.....Zone.....State.....

### LETTERS—Code Babel cont'd.

superintendent of construction and a qualified building mechanic. Each must have had at least ten years experience in his field.

The work of the board I feel has encouraged rather than retarded the construction of low-cost homes.

WILLIAM C. BEACH  
Building inspector  
Rome, N. Y.

Sirs:

The City of Greenville operates under the Southern Standard Building Code, almost the uniform code in the South. Our code will allow studs to be spaced 24" o.c. and will not allow the plumbing vent to project more than 12" outside the roof, unless there is a window within 3' of the vent.

It further accepts prefabricated construction, if the design has been tested for structural safety by a national testing laboratory.

L. D. ALLISON  
Building commissioner  
City of Greenville, S. C.

Sirs:

It certainly does not tie in with anything we have as we have adopted the latest national codes modified for our climate.

A. T. HARRISON, mayor  
Brunswick, Ga.

Sirs:

As to your statement that most local codes are rackets, we don't know where you secured such information. There may be some cases where such conditions may exist, but we cannot believe that a majority are so. Every day, we read reports of people injured and of loss of life in homes throughout the nation caused by improper, unsafe construction of buildings or improper installation of equipment. These reports indicate to us that most codes are not up to national standards or are not properly enforced, instead of being, as you state, stricter than need be properly to protect public safety.

A. M. CARASCO  
Building inspector  
Longview, Wash.

Sirs:

Your observation and recommendations are unquestionably logical.

DONALD B. RICE, mayor  
City of Frederick, Md.

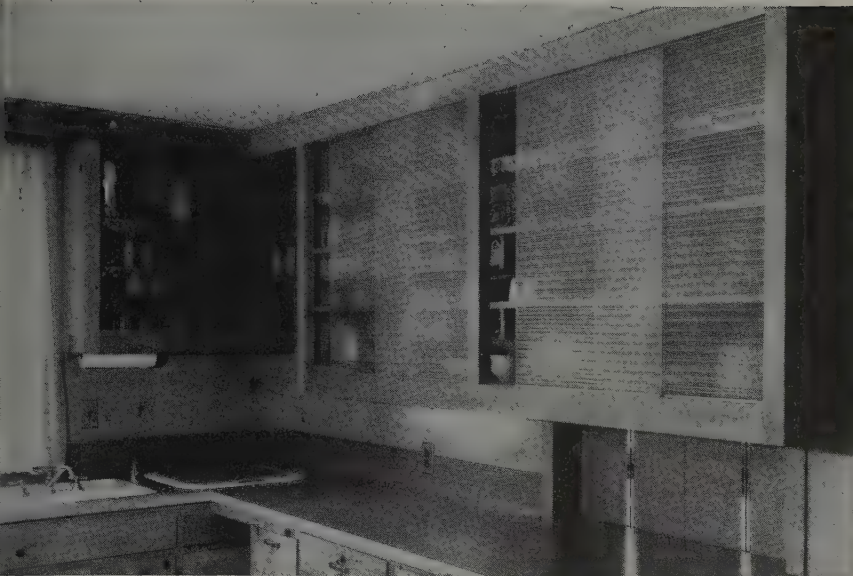
Sirs:

Your editorial should serve as a stimulant to the public officials who are still laboring to bring about the adoption of modern building codes for their cities.

I find that there is a much closer association between the building officials and the code-revision committee at the regional level than could be reasonably expected on a national level. The functional code in no way interferes with standardization of building mate-

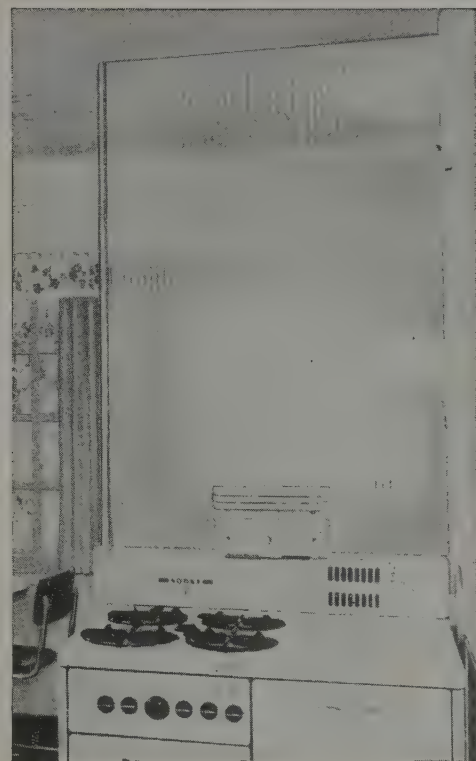
continued on page 170





**CUPBOARD DOORS DECORATE** this kitchen. They're sliding panels of Blue Ridge Patterned Glass. Women like the easy cleaning of this translucent glass. The wipe of a damp cloth keeps it bright as new. Architect: George A. Letts, Cleveland.

# Glamorize YOUR KITCHENS ... WITH PATTERNED GLASS



**DIVIDES THE ROOM**, shares the light. Flutex Glass hides the kitchen from the dinette and decorates both rooms. Steam can't harm the glass. And dirt wipes right off. Architect: C. W. Mayhew, San Francisco.



**SLIDING PANELS** of Douplex Glass are used in the pass-through between the dining room and kitchen. The sparkling pattern adds a decorative touch to both rooms. Architect: Robert Boyd Picking, Chicago.

Blue Ridge Patterned Glass gives homes *extra* benefits that women like—brightness, beauty, easy cleaning and a look of modern smartness. There are dozens of places in a home where you can use this lovely glass to put more appeal and salability into houses. Choose from linear, checkered and over-all patterns—in plain, textured and *Satinol*\* finishes. Your L·O·F Distributor or Dealer can show you samples. <sup>®</sup>

**BLUE RIDGE**  
**Patterned GLASS** 

Libbey-Owens-Ford Glass Company  
Patterned & Wire Glass Sales  
B-7112 Nicholas Building, Toledo 3, Ohio

Please send me your idea book: *New Adventures in Decorating*.

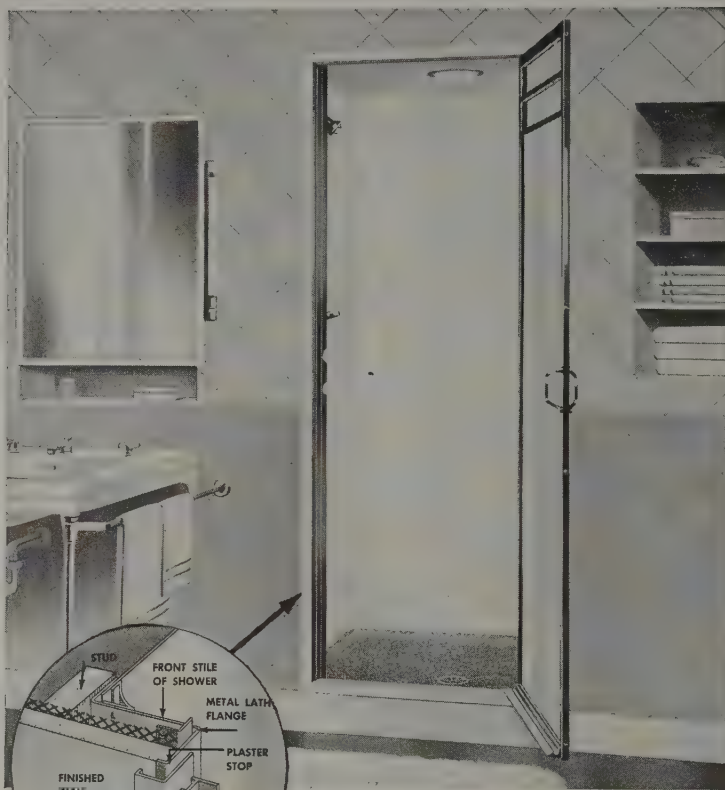
Name (please print) \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

SEND FOR BOOK OF 42 DECORATING IDEAS FREE ..





**Completely built-in the bathroom**

*a new shower designed  
for Builders*

## **BUILT-IN *Cadet* SHOWER, DESIGN 19B**

**...with Precast Terrazzo Receptor**

Completely recessed, door flush with wall of bathroom, no exposed metal panels.

Beautiful in appearance—clean interior, no screws or projecting fastenings to mar the bright white, smooth enameled finish.

Permanently water-tight—no mortar joints to crack and leak.

Installed cost is much less than tile or other built-on-the-job showers. Only one trade required for installation.

Size, 36" x 36" x 80"—curtain or zephyr door as illustrated, bonderized, galvanized steel walls, baked-on synthetic white enamel—will not rust.

Install a Fiat 19B Cadet on your next job. You will find this shower readily accepted by home buyers.

### **FIAT METAL MANUFACTURING COMPANY**

THREE MANUFACTURING PLANTS

(Chicago area plant) Franklin Park, Ill.

Long Island City 1, N.Y.

Los Angeles 33, Calif.

In Canada: Fiat showers are made by Porcelain and Metal Products, Ltd., Orillia, Ontario

**FIAT**

Please send catalog of Fiat Showers, Receptors and Doors. Also builders bathroom floor plan sheet.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_ STATE \_\_\_\_\_

Mail to Fiat Metal Mfg. Co., Franklin Park, Ill.

## **LETTERS—Code Babel cont'd.**

rial products and the regional approach, with a constant exchange of ideas between the various regional-code revision committees, is far better than an approach at the national level. We certainly do not want more federal government regulation.

CARL B. CLOSE, mayor  
City of Alexandria, La.

Sirs:

How right you are concerning plumbing codes and how necessary it is that we have a state-wide or a country-wide uniform code! I have seen many abuses provoked by a stupid plumbing code.

HERBERT KRUTTSCHNITT, mayor  
Irvington, N. J.

Sirs:

Las Vegas operates under uniform building plumbing and electrical codes with local adaptations of printed codes.

C. BAKER, mayor  
Las Vegas, Nev.

Sirs:

We are striving for the greatest uniformity possible and are adopting new codes as they are published.

JAMES L. RUSH, mayor  
City of Gardena, Calif.

Sirs:

All we require in Ashland is that the home builder comply with the Ohio State Building Code. In some allotments restrictions are set up to insure a minimum-priced house to be built; however, the city does not have any control over this.

LOUIS E. MANSFIELD  
City of Ashland, Ohio

Sirs:

Your editorial is wrong in some respects, sound in others. Uniform codes in communities having the same climate and soil conditions should be sought after.

Your editorial says nothing about individual style and livability which I feel is very important. The old mining-town "company house," which is just a box exactly like all the others, has uniformity and I dare say no wasted materials. However, I think the individual's pride in his home makes competition and competition has made America great.

GEORGE J. URBAN, mayor  
City of South Euclid, Ohio

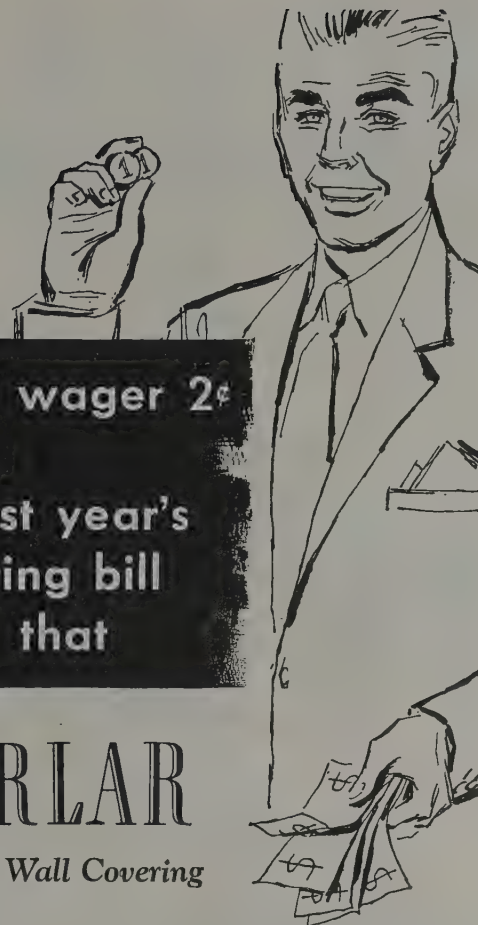
Sirs:

We have a little code which provides that a man can only build one house for himself without a contractor. This adds \$1,000 to the cost of the small home you mention.

We have found through many years' experience that to put a house up on piers where the air can circulate will prevent rotting of

*continued on page 172*





**WILL you wager 2¢  
against  
your last year's  
decorating bill  
that**

**VARLAR**

*Stainproof Wall Covering*

**can save you  
thousands  
of decorating dollars!**

Varlar **ENDS** the wall soil hazards that run maintenance costs sky high... because Varlar is actually **STAINPROOF!** Smoke, grime, grease, crayon, lipstick, ink, Mercurochrome... and countless more stains that deface other walls... simply wash off Varlar with ordinary soap and water... up to 25,000 times without injury to surface

or colors! And, Varlar never fades... never streaks! More than 180 extremely smart styles, including the distinctive new Travelers' Collection... give personalized, liveable interiors that are beautiful indefinitely. Decorate with Varlar and you'll redecorate only with plain soap and water... year after year.

**A 2¢ POSTCARD PASTED TO  
THIS COUPON WILL SHOW YOU  
WHAT VARLAR CAN SAVE YOU...**

Send for your  
**FREE TESTING SAMPLE** of  
Varlar Stainproof Wall Covering

**VARLAR, Dept. HH-112  
Merchandise Mart, Chicago 54, Illinois**

Please send **FREE TESTING SAMPLE** and full information on VARLAR Stainproof Wall Covering. I am particularly interested in VARLAR for

- |  |                                    |                                      |
|--|------------------------------------|--------------------------------------|
| <input type="checkbox"/> Homes               | <input type="checkbox"/> Hotels    | <input type="checkbox"/> Clubs       |
| <input type="checkbox"/> Theatres            | <input type="checkbox"/> Hospitals | <input type="checkbox"/> Restaurants |
| <input type="checkbox"/> Office Buildings    | <input type="checkbox"/> Schools   | <input type="checkbox"/> Stores      |
| <input type="checkbox"/> Apartment Buildings |                                    |                                      |

Name \_\_\_\_\_

Address \_\_\_\_\_

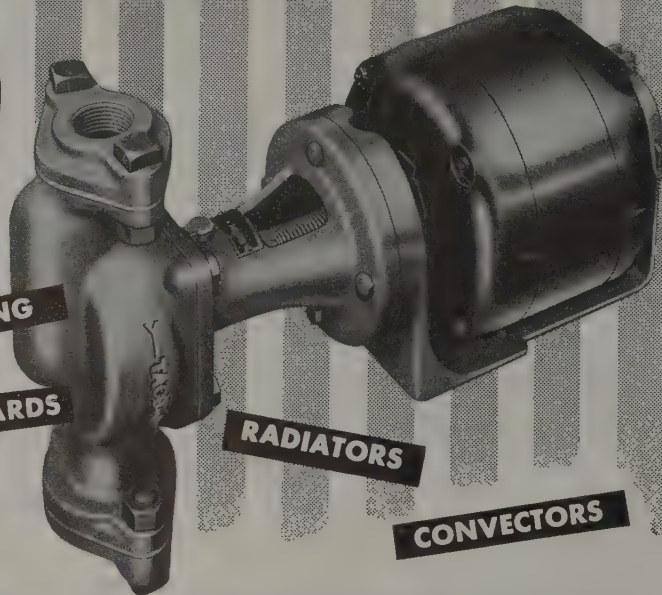
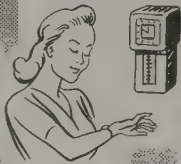
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**VARLAR**

**Stainproof Wall Covering  
product of United Wallpaper, Inc.**



# get FAST, RESPONSIVE HOT WATER HEAT for



**PANEL HEATING**

**BASEBOARDS**

**RADIATORS**

**CONVECTORS**

## with this popular TACO CIRCULATOR

EVEN LOW BUDGET HOMES CAN NOW HAVE THESE LUXURY ADVANTAGES

### RADIANT WARMTH • DRAFTLESS WARMTH • CONTROLLED WARMTH



#### MORE HOT WATER FOR KITCHEN, BATH AND LAUNDRY

Yes, forced hot water heat with a TACO circulator gives all this *plus* economical warmth. No need for a separately fired water heater. TACO TANKLESS, hooked up to a heating boiler, supplies year 'round low cost hot water.



The TACO circulator delivers heat where it will give the greatest comfort . . . whether you use radiant panels, convectors, radiators or baseboards.

**ARCHITECTS-ENGINEERS  
WRITE FOR . . . SIMPLIFIED  
SELECTION CHART FOR SIZ-  
ING TACO WATER HEATERS  
UNDER ANY CONDITIONS.**

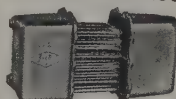
### Three other famous TACO PRODUCTS for houses

#### TACO-VENT



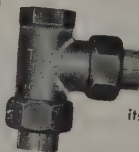
eliminates air from hot water radiation automatically

#### TANKLESS TACO



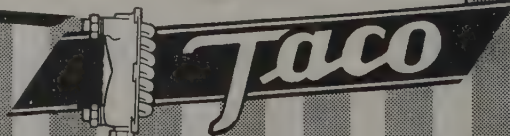
gives an abundant supply of hot water instantly. No need for storage tank.

#### TACO TEMPERING VALVE



thermostatically mixes hot water with cold so there's no danger of its being too hot.

**Better Heating-  
Better with Taco**



TACO HEATERS, INCORPORATED • 137 SOUTH STREET • PROVIDENCE 3, R. I.

## LETTERS *continued*

the beams and floors, but the same code provides that you have steel-reinforced solid concrete foundation even around porches and in low-cost homes.

It is true we have hurricanes but they are not bad. On the other hand we are a little lax in the inspection of the buildings so in the end the property owner is not really protected. Only the costs are up.

JOHN L. EARLY, mayor  
City of Sarasota, Fla.

## NO AURORA BOREALIS

Sirs:

Are we to assume from your commercial (H&H, Aug. '52, p. 46) that ALFOL and all types of reflective insulation have reached the nadir of their usefulness when it comes to using them as insulation above electric ceiling panels?

Even if it were true that the foil could pick up an induced charge from the panels, a theoretical condition would have to exist whereby the layers of foil would come in direct contact with the panels. If you are familiar with our product, you know that this is an impossibility because there is a separating layer of tough, durable duplex and kraft paper between the foil and the panels. Ours is the only reflective insulation on the market that is so constructed.

J. D. PROCTOR  
Reflectal Corp.  
New York 17, N. Y.

House & Home is pleased to confirm that Reflectal Corp.'s insulated aluminum foil does not pick up induced charges from electric ceiling panels. Unconfirmed reports say that such induction has occurred in houses where the foil was permitted to sag on the wiring system. This is obviously bad practice and should be avoided.—Ed.

## FIVE FIELDS' SITE PLANNERS

Sirs:

Congratulations on the skillful presentation of Five Fields (H&H, Aug. '52).

You rightly attribute much of the success of this development to good street and road layout, siting of buildings and retention of existing trees. Too bad, then, to identify Chambers & Moriece, who did the site planning, as civil engineers. They are actually a well-known firm of landscape architects.

SIDNEY N. SHURCLIFF  
Landscape architect & town planner  
Boston, Mass.

## RESEARCHERS RESEARCHED

Sirs:

Sincere thanks for the excellent report you gave of the Small Homes Council's 1½ story roof truss (H&H, Sept. '52).

The work done to expand a routine news release into an article is definite proof of the

*continued on page 174*



# BRIXMENT MORTAR

## *Helps Prevent Efflorescence*



*To test two mortars for resistance to efflorescence, "cap" two brick heavily with the mortars—let harden, and*



*keep both brick for a few weeks in a shallow pan of water, as shown. Try this with Brixment mortar!*

### **HERE'S WHAT CAUSES EFFLORESCENCE—AND WHY BRIXMENT MORTAR HELPS CONTROL IT**

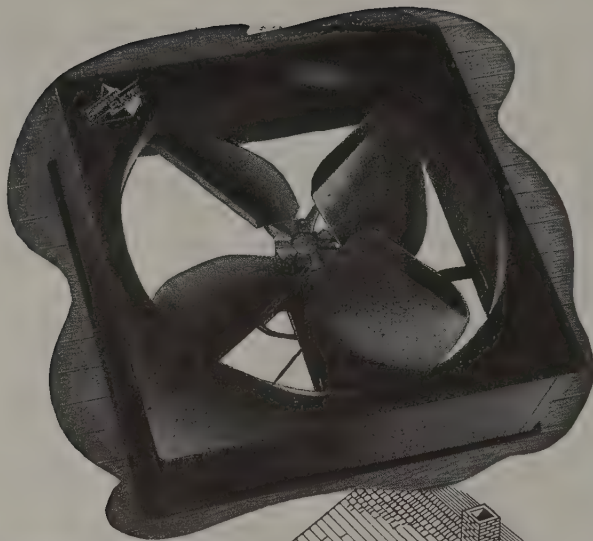
Efflorescence is an outcropping of minute white crystals on brickwork. When these crystals occur on colored mortar joints, the condition is sometimes mistaken for *fading*.

Efflorescence is caused by the presence of soluble salts in masonry materials. When reached by water, these salts dissolve, and are drawn by evaporation to the surface of the wall. Brixment itself

*does not cause efflorescence* because it is practically free from soluble salts. Even when such salts are present in the sand or brick, the air-entraining and water-proofing agent in Brixment usually *prevents them from coming to the surface*.

Bricklayers who have used Brixment mortar for years say they have far less efflorescence with Brixment than with any other mortar.

**LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE 2, KY.**



## EQUALLY IMPORTANT

... Fan Equipment for Summer Comfort  
... Heating Equipment for Winter Comfort



SPECIFY EMERSON-ELECTRIC

# ATTIC FANS

Architects and builders are adding Emerson-Electric Attic Fans to their plans and specifications to provide summer comfort... a necessary feature if the home is to be made livable the year 'round.

Your clients save half the installation cost if the fan is installed while the house is being erected, a saving that becomes an important consideration.

Write for complete installation data at once. Ask for Bulletin No. T95.

**THE EMERSON ELECTRIC MFG. CO.**  
ST. LOUIS 21, MO.



### Also specify Emerson-Electric Kitchen Ventilators

You add "Kitchen Appeal" to your homes when you specify Emerson-Electric Kitchen Ventilators. Wall and ceiling models available for easy installation in any type construction.

**EMERSON**  
FANS • MOTORS



**ELECTRIC**  
APPLIANCES

### FREE FAN CATALOG

THE EMERSON ELECTRIC MFG. CO.  
St. Louis 21, Mo.

Send us your illustrated  
catalog for '52.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

## LETTERS *continued*

value of the research and a real encouragement to our staff. Our comment on seeing the article was "some real sharp editor got a hold of that to read that much into one photograph."

Currently we are making a few minor revisions in the joint details and exploring span limits within which the truss would be economical. We hope actually to build a house using this design sometime this fall.

JAMES T. LENDRUM, *director*  
University of Illinois  
Small Homes Council  
Urbana, Ill.

## THE TOO SMALL HOUSE

Sirs:

At this stage it seems more important to find ways to update existing housing (H&H, Oct. '52) than to produce more minimum housing. The most pressing need for additional housing has been met. We should therefore turn our talents to improvement.

RICHARD A. BOOTH, *president*  
Springfield Institution for Savings  
Springfield 1, Mass.

Sirs:

It is gratifying that under your leadership more attention is at last being given to producing better rather than merely smaller low-cost homes.

RALEIGH W. GREENE, *president*  
National Savings & Loan League  
Washington, D. C.

Sirs:

To me the most important single point revealed is that private industry recognizes the shift in FHA. Originally FHA was to insure mortgages on a basis which would enable more people to buy homes with lower down payments, lower interest rates, and lower monthly payments. The new purpose seemed to be only to reduce the price of houses, forgetting completely that segment of the population that needs and can afford to pay for something other than the absolute minimum housing.

W. C. NELSON, *president*  
Eberhardt Co.  
Minneapolis, Minn.

## THE NATION'S SLUMS

Sirs:

I concur wholeheartedly with Alan Broockbank's approach to the problem of the nation's slums (H&H, Sept. 52).

Many in this country have looked too long to government to solve problems that should and can be handled at local community level.

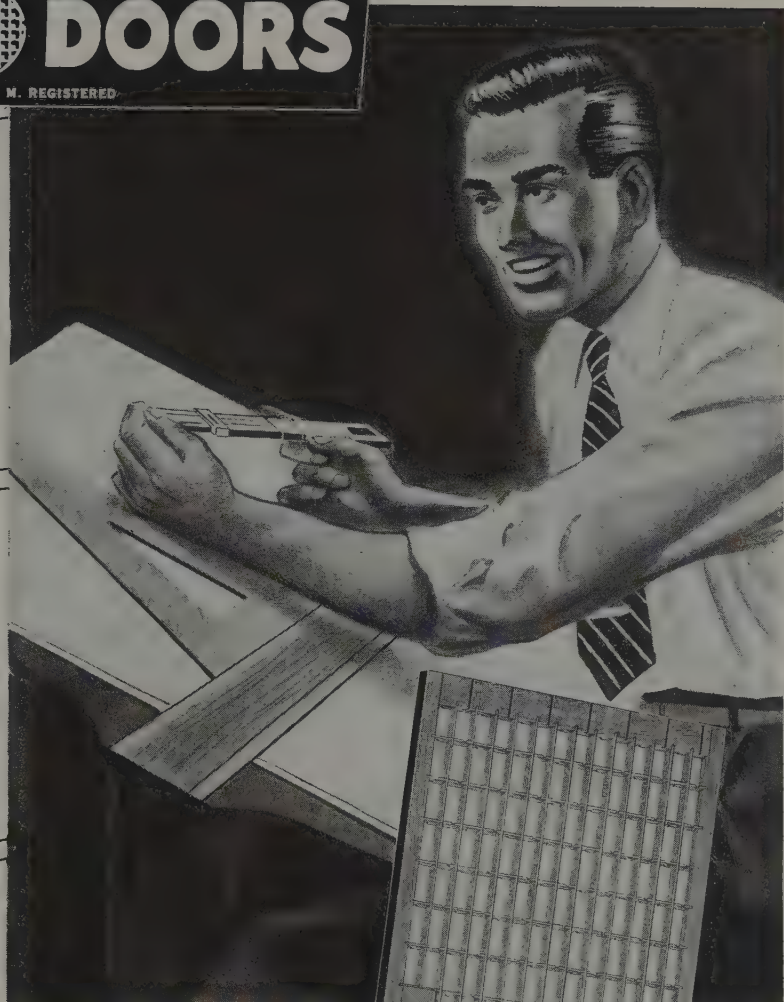
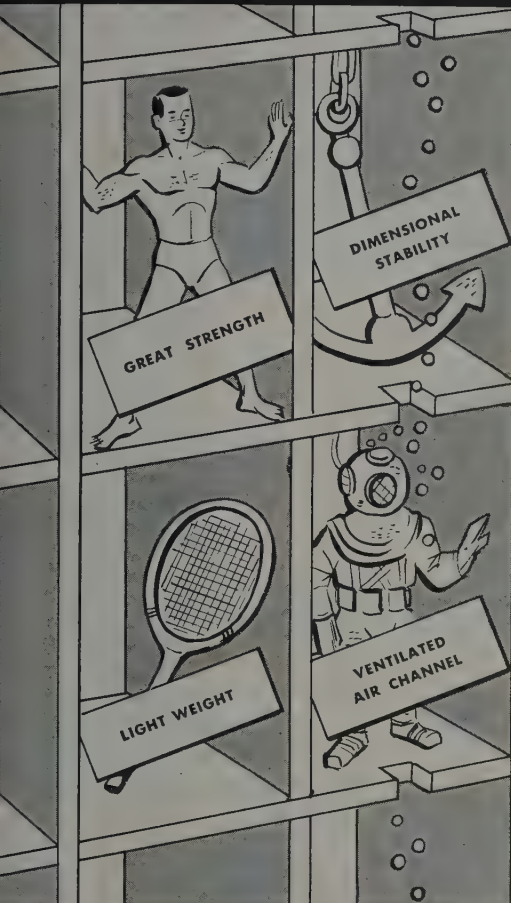
J. B. HAVERSTICK  
National Assn. of Home Builders  
Washington, D. C.

*continued on page 17*



# You can SEE the *Engineered Strength* in PAINE REZO DOORS

T. M. REGISTERED



It's SO EASY to fit the strongest — and best — flush door into your building plans, for the structural superiority is plainly evident . . . and the cost is fully in line with the market price for commonplace doors. Paine Rezo offers you exclusively: the ventilated air-cell principle that maintains the same atmospheric conditions inside the door as exists outside; the interlocked, interwoven all-wood core that provides unmatched stability.

The case history of this original construction goes back in the building industry to 1936. It was so impressed architects and contractors everywhere that they have decided more than five million times to install the Paine Rezo door — a decision that has made the company behind it one of the world's largest mills devoted exclusively to the production of hollow core flush doors. See Sweet's File, or write today for an illustrated factual bulletin.

*Manufactured by the*

**PAINE LUMBER CO., LTD.** *Oshkosh Wisconsin*

ESTABLISHED 1853

home buyers are

**SOLD**  
on "plug-in" strip



You don't need to "sell" home buyers on "Plug-In" Strip. They like the multitude of electric outlets it provides—every 18" all around the room—for appliances, lamps, radio. Housewives like the freedom it allows for furniture arrangement . . . the electrical convenience (every 6") it gives to kitchen work centers.

"Plug-In" Strip is an all-metal, pre-wired, ready-to-install wiring system that's SAFE. Eliminates dangerous, ugly extension cords. No soldered or screwed connections to come loose. Life-time, tamper-proof receptacles with permanent, locked-on capping.

"Plug-In" Strip adds value and livability to any home—yet costs mere pennies more than ordinary, quickly outdated systems. Write for full details today. Give *your* homes that "added extra" that makes sales.

Listed by Underwriters' Laboratories, Inc.

EVERYTHING IN WIRING POINTS TO

## National Electric Products

1334 Chamber of Commerce Bldg., Pittsburgh 19, Pa.

Please send me further details on "Plug-In" Strip.

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_



For SAFETY, EFFICIENCY  
... and CONVENIENCE, too!



Just note the many outstanding features built into the BRILLIANT FIRE. Then, try to match it in any price field.

COZY COMFORT in the Living Zone, Individual Heat Control for every room are features . . . most for your Fuel Dollar a promise. Easy to install, simple to regulate. Telescopes (adjusts to exact wall thickness). No odors, no sweating. For All Gases. Single-Room & Dual-Room models.



NO ODOR  
OR  
SWEATING



EASY TO  
INSTALL



SIMPLE TO  
OPERATE



SET IT  
AND  
FORGET IT



SAFE AND  
DEPENDABLE

Is gas-tight from burner to flue . . . 100% welded.

Multi-liner Wall Box means greater protective shielding, better insulated.

High-efficiency combustion, non-clog burner, cast-iron chamber head.

Low-level heat delivery insures Living Zone comfort without stuffiness.

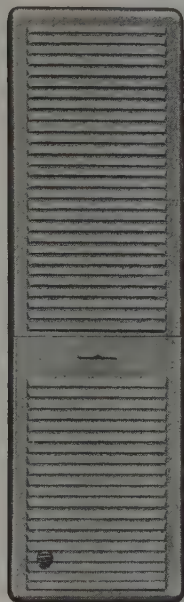
Fits standard studding. Easy to install, regulate, operate.

Convenient controls. Safety Pilot and Draft Diverter are built in.

Convenient Service Panel simplifies lighting, dusting, inspecting. Snaps on.

Dual-Room models are two complete heaters in single wall box. Vision-proofed, soundproofed.

A.G.A. approved for all gases and High Altitude operation.



WRITE FOR CATALOG & PRICES



Vented — Recessed  
**WALL HEATER**

THE OHIO FOUNDRY & MFG. CO., STEUBENVILLE, OHIO





Extra-strong, lightweight coils of Bundyweld Tubing are easily mounted onto ceilings. Lying flat and straight, coils are quickly plastered over, with small chance of damage from rough handling or accidental hammer blows.



Add a new sales clincher to your houses—

## Bundyweld Ceiling Radiant Heating

Nowadays, every modern house features an eye-catching tiled bathroom and streamlined kitchen.

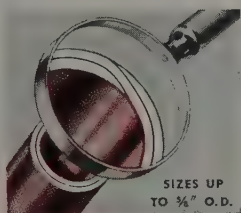
But there's a *new* sales clincher that will really put your houses in top demand right now and keep them in front during coming years—Bundyweld Ceiling Radiant Heating.

Here's a system that's already a big hit with thousands of enthusiastic users. They've gone on record with praise for this clean, economical and convenient way to heat homes. Just imagine telling your prospect that he can have walls without dirt streaks, even warmth, free-

dom from drafts, lower fuel bills.

That same prospect of yours could well be one of the millions who have already seen Bundy ads in *Better Homes & Gardens* and *American Home*. Those readers have sent in an avalanche of coupons requesting literature—and the names of builders and architects handling Bundyweld Ceiling Radiant Heating in their communities. For more details, mail coupon below.

**Radiant Heating Division**  
**BUNDY TUBING COMPANY**  
Detroit 14, Michigan



### Key to Low Cost

Bundyweld is the only tubing double-walled from a single strip, copper-brazed through 360° of wall contact. It's leak-proof, thinner walled, yet stronger. It transmits heat quickly, has high bursting strength. It saves on material costs and installation time.

Standard 20' or 24' lengths of Bundyweld are easily formed into coils in shop or on job site. Expanded ends (furnished when specified) are quickly soldered into leakproof union. Joined, lightweight coils are easily mounted onto ceiling, quickly plastered over.

SEND FOR  
**FREE** »  
**LITERATURE!**



Bundyweld  
Ceiling Radiant Heating

Radiant Heating Division, Dept. MB 1152  
Bundy Tubing Company, Detroit 14, Mich.

- ☐ Send free 20-page nontechnical brochure explaining Bundyweld Ceiling Radiant Heating.
- ☐ Send Bundy technical radiant heating pamphlet.

Name \_\_\_\_\_ Title \_\_\_\_\_

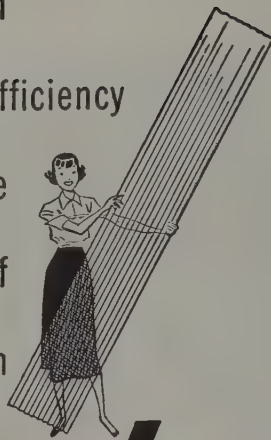
Company \_\_\_\_\_

Address \_\_\_\_\_

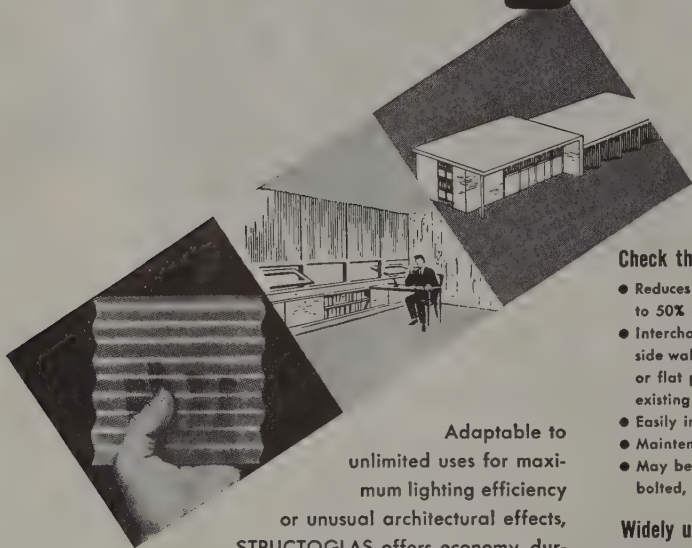
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

NOW...a versatile building panel

to add daylighting efficiency  
and decorative appearance  
to all types of  
construction



# structoglas



Adaptable to  
unlimited uses for maxi-  
mum lighting efficiency  
or unusual architectural effects,  
STRUCTOGLAS offers economy, dur-  
ability, high level transmission  
of natural diffused light...plus attractive appearance.  
This translucent, Fiberglass-reinforced building  
panel is extraordinarily strong, yet light-  
weight; low cost but long-lasting!

**Translucent colors:** Surf Green  
Crystal Blue • Harbor Blue  
Tangerine • Ivory • Lemon Yellow  
  
**Opaque colors:** Tile Red  
Sunflower Yellow • Emerald

Available in standard heavy and extra heavy  
corrugations to match metal and asbestos  
cement in standard sheet sizes up  
to 12 feet in length. Also available in flat stock.

See our catalog in Sweet's File, Architectural

For full details, send this coupon today! ▶

#### Check these features:

- Reduces daylighting costs up to 50% or more.
- Interchangeable with corrugated side wall and roof construction, or flat panels, in both existing and new construction.
- Easily installed.
- Maintenance-free.
- May be cut, sawed, nailed, bolted, drilled or punched.

#### Widely used for:

- Skylights.
- Window walls.
- Office partitions (fixed or moveable).
- Shower and toilet partitions.
- Canopies and awnings.
- Interior wall panels.
- Decorative exterior facings and many others.

#### STRUCTOGLAS Division of

international molded plastics, inc.  
4387 West 35th Street, Cleveland 9, Ohio

Please send me complete Structoglas information.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_

HH-11

#### LETTERS continued

Sirs:

I am in accord with almost all of Alan Brockbank's thinking.

JOSEPH W. LUND, *president*  
*National Assn. of Real Estate Board*  
*Washington 6, D. C.*

Sirs:

As mayor of Baltimore I have urged strong approach to this problem at every level of community interest.

Believing that no one method is adequate we have low-rent public housing projects and are building and planning more, and we are currently engaged in two redevelopment projects whereby slum land is being cleared and made available to private builders.

THOMAS D'ALESSANDRO, *JR.*  
*Mayor of Baltimore*  
*Baltimore, Md.*

Sirs:

Mr. Brockbank glosses over the difficulty of getting proper local laws, with enforcement staff and city backing, just as he fails to mention the tremendous problem of providing an adequate inventory of decent low-rent or low-cost housing for the low-income families.

Public housing today fills a need, otherwise totally unmet. Children with paint brushes can't clean out the slums, as salubrious as this effort is—but Americans with good laws, courage and co-operation and willingness to be honest when faced with facts, can do the job. Thirty-seven per cent of the homes in San Antonio were scored substandard by the 1950 census. This means approximately 41,000 dwellings, and using the minimum of four persons to a family (and a large portion of our families of Latin-American extraction have 6 to 12 children) some 164,000 persons are affected. Most of these structures if fitted with plumbing or water would still be dilapidated and no amount of paint would cure them either. If Mr. Brockbank would face facts he would have told his readers that the city of Baltimore, with its monumental efforts to rehabilitate or tear down unfit dwellings, has at the same time a new program of public housing underway of some 10,000 dwelling units. That city has not been satisfied to see only one small segment of the total picture but has viewed it in its entirety and acted accordingly.

MARIE C. MCGUIRE, *executive director*  
*Housing Authority of the City of San Antonio*  
*San Antonio, Tex.*

#### THE MORTGAGE MESS

Sirs:

It is most unfortunate that more of that kind of editorial thinking (H&H, Aug. '52) does not infect the general press.

CLYDE J. VERKERKE, *president*  
*Northern Virginia Builders Assn.*  
*Arlington, Va.*

continued on page 18



## When's an "extra" room not an extra room?

**Answer:** when it's part of your living room. For instance, when you fold the large "Modernfold" door back against the wall to add length to your living room... your "extra" room disappears. Yet when you close this *movable wall*, you've built a den, study, TV room or bedroom.

Notice how Bill W. Tietz, President of Tietz Construction Co., Tacoma, Wash., uses "Modernfold" doors to full advantage in his Mountbrook Manor development. His customers like—and buy—the idea of being able to shape their houses to their needs of the moment... through the magic of "Modernfold" doors.

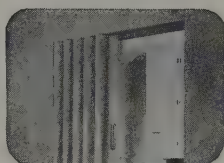


## Your ideas come to life... for life with "MODERNFOLD" doors

For every room division or door closure problem, there's a simple, economical, space-saving solution. That's "Modernfold," the original folding door.

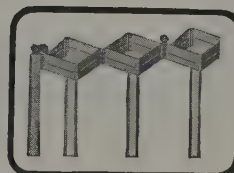
Specifying "Modernfold" doors keeps clients happy. For these steel-framed, vinyl-covered doors can't be equaled *anywhere* for quality of design... for quality and strength of materials.

And because this line is *complete*, you're sure to save time and get exactly what you want when you specify better looking, easier operating, longer lasting "Modernfold" doors.



### Better Looking

Fabric covering conceals all operating mechanism. No cornice needed. Adjustable trolleys keep doors hanging flush to jamb.



### Longer Lasting

Balanced hinge construction both top and bottom. Trolleys attached at hinge intersections. No sidewise twist or pull possible.



### Better Background

Over 100,000 "Modernfold" doors now in operation—a backlog of space engineering experience that's your guarantee of satisfaction.

### YOU CAN'T GET MORE IN A FOLDING DOOR



COPYRIGHTED NEW CASTLE PRODUCTS 1952

New Castle Products  
P.O. Box No. 865  
New Castle, Indiana

Please send full details on "Modernfold" doors.

Name.....

Address.....

City.....County.....State.....

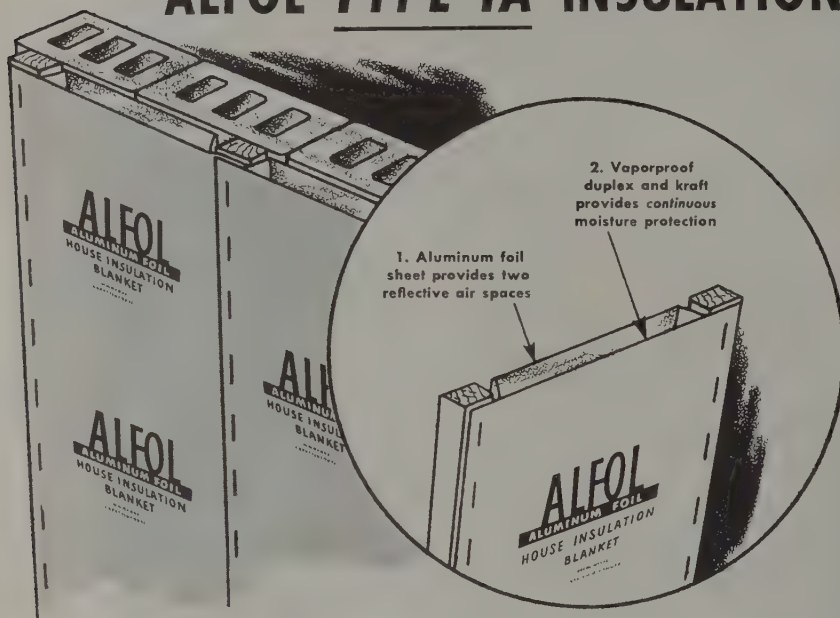
**Sold and Serviced Nationally**

**NEW CASTLE PRODUCTS, NEW CASTLE, INDIANA**

*In Canada:*

**Modernfold Doors, 1315 Greene Avenue, Montreal**

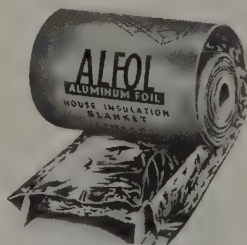
# NOW! FOR FURRED MASONRY... ALFOL TYPE 1A INSULATION



**Over an Inch of Insulating Value  
plus a positive Vapor Barrier—all  
in the narrow  $\frac{7}{8}$ " space available!**

Unusual efficiency? Definitely! And it's yours—without refurring—only with ALFOL Type 1A BUILDING BLANKET, the insulation *specially made* for standard masonry construction. Here's why it's so effective. Automatically on application, the pure aluminum foil sheet "pops out" just  $\frac{5}{8}$ " to divide your  $\frac{7}{8}$ " space (provided by ordinary 1x2" furring) into 2 reflective air spaces—equal in thermal value to *more than an inch* of insulation. The heavy vaporproof duplex and kraft backing, by which ALFOL is applied across furring strip faces, provides a positive *continuous* vapor barrier.

Like all ALFOL types, "1A" is compact, lightweight, easy to apply. A real money-saver by cost study proof! Immediately available in handy 250 and 500 square foot rolls (see ABB Type II illustration at right).



FREE! Data Book on "1A"  
and all ALFOL types. Address  
letterhead to Dept. A-11.

# ALFOL

**FIRST IN REFLECTIVE INSULATION**

**ALFOL INSULATION • 155 E. 44th St., ... NEW YORK 17, N. Y.**

## LETTERS continued

Sirs:

"The Mortgage Mess" editorial is a terrific strike. How much good it will do is questionable. Perhaps hammering along these lines will finally wake up the "opportunistic elements" in the housing industry to assert their independence and shake up the "rat cheese" lines of government subsidy.

WALTER C. VOSS, head  
Dept. of Building Eng. & Const.  
Massachusetts Institute of Technology  
Cambridge 39, Mass.

Sirs:

I agree wholeheartedly with your idea that the FHA and VA programs are fast becoming a political football, and that Fanny May operations are no longer necessary. As a matter of fact, I am of the opinion that Fanny May was never a necessity. My institution has been able to operate most satisfactorily without it and we have been able to do a good job for veterans.

Also, I agree that it is high time home builders cut loose from government subsidy and get back to operations on their own. As I see it, builders have become too accustomed to having someone else take all the risks.

CLARENCE E. KEFAUVER, president  
Columbia Federal Savings & Loan Assn.  
Washington 1, D. C.

Sirs:

I think the point well taken that the less reliance lending companies place in government agencies and the more they strengthen the ability to market their loans through private channels the better. A considerable part of the slump in residential building and residential lending resulted from the action of the government in March, '51, which made both GI and FHA loans unattractive on account of the low-interest rates. The successive regulations and restrictions which have come since have added to this burden to the point that these loans are now of little profit to the lending agencies and much less value than before to builders. Apparently it has come to a point where the political motives are pretty much the deciding factors.

W. W. BEAL, chairman  
Iowa Securities Co.  
Waterloo, Iowa

Sirs:

By all means, keep up the good work you are doing with such editorials as "The Mortgage Mess." I hope that the government will come around to a realization that its existing program is unnecessary and extremely costly to Uncle Sam.

One additional point that might be mentioned is that, in the original National Housing Act, provision was made for the establishment of national mortgage associations.

continued on page 18



# NEW

# CURTIS Woman-Styled KITCHENS

give the housewife what she wants

IN THE HOMES YOU PLAN AND BUILD!

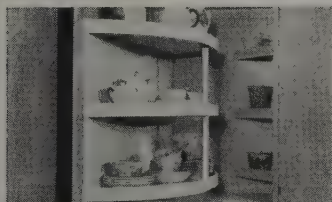


## NEW BEAUTY

Smart, simple and streamlined, the new Curtis kitchens are available with birch drawer and door fronts—ready for popular natural finishes. Or, if desired, cabinets are shipped finish painted in white, ready for decoration in colors of the owner's choice.



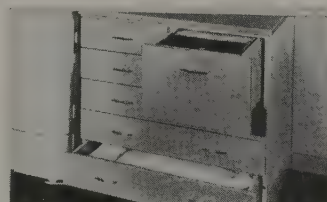
Everybody knows that in the kitchen, woman is the boss. So here's the biggest kitchen news of the year for architects and builders—a complete new line of Curtis wood kitchen cabinet units, styled and designed by women—tested by women—judged and approved by women! Thousands of women homemakers helped name the 53 big features which make the new Curtis kitchens so powerful in their appeal to women. Below are just a few of the many new features which give today's women homemakers what they want and need in kitchens.



**No waste space**—swing shelves in wall and base units utilize entire storage area. Women will love this feature.



**Front row storage**—spin shelves in wall and floor corner units bring often-used utensils within easy reach.



**Extra large metal bread and cake box**, with sliding cover. Easy operating, non-sticking drawers, with hardwood runs.



**Base "island" unit** with two pass-through drawers, large mixing board, pass-through shelf, space for large utensils.



**No "scrambling"**—sliding tray—Perma-Brite no-sag sliding wire shelf—deep shelf for roaster, and large utensils.

## Full information

on the new Curtis kitchen cabinet units is yours for the asking—mail the coupon.

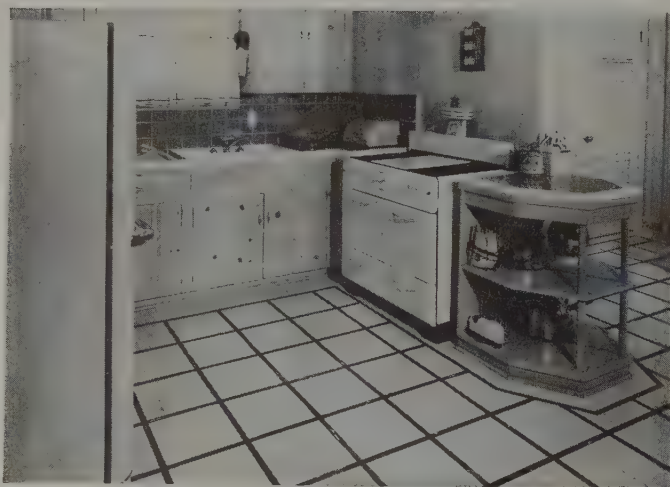
Curtis Companies Service Bureau  
MB-11 Curtis Building  
Clinton, Iowa  
Gentlemen:  
Please send me booklet on new Curtis woman-styled kitchens.

Name.....  
Address.....  
City.....Zone.....State.....

Curtis makes a complete line of architectural woodwork and Silentite windows for homes of all types and sizes. Make your next home "all Curtis."



## Here's a **QUALITY FEATURE** that costs **Nothing Extra...**



Floors of...

## WRIGHT RUBBER TILE

Many builders have found that Wright Rubber Tile actually costs less—when used in both kitchen and bath—than the floors they have been using.

More important, they have found that buyers quickly recognize floors of Wright Rubber Tile as a "quality feature" that makes any house more desirable.

The result is more profit and quicker sales. Why continue to install floors that your prospects are "fed up" with? Get on the bandwagon—use Wright Rubber Tile in the next houses you build! See for yourself how much quicker they sell. We are not kidding—try it!

**WRIGHT MANUFACTURING CO.**  
5203 Post Oak Road Houston 5, Texas



**WRIGHT RUBBER TILE**

FLOORS OF DISTINCTION

- ♦ WRIGHTEX—Soft Rubber Tile
- ♦ WRIGHTFLOR—Hard Surface Rubber Tile
- ♦ WRIGHT-ON-TOP Compression Cove Base

3500

## LETTERS *continued*

tions, but only one was chartered, namely FNMA, and this provision of the law was dropped out shortly thereafter. Back in 1933 the Lawyers Mortgage Co., with which was then associated, tried to get such a charter.

The idea is sound and, if the government saw fit to reenact this provision, there is no doubt in my mind but what private associations could be formed which would be able to give the mortgage market all the liquidity it needs, thus obviating the necessity of the billions that go into Fanny May. I naturally couple the success of such a venture with the ideas you express in your editorial about the fixed interest rate of government insured mortgages, particularly VA's.

RICHARD M. HURD, *vice president*  
*Teachers Insurance & Annuity Assn.*  
New York, N. Y.

Sirs:

The editorial is excellent.

You know, soon after the shrimp fleet left the coastal waters around Jacksonville when the Caribbean shrimp beds were discovered several years ago, the sea gulls in our section were found in large numbers on our beaches starving to death. Generations of them had learned to follow the shrimp boats and depend for an easy living on the miscellaneous marine life which the shrimpers threw overboard. When the shrimp boats left for greener pastures, the gulls who had depended upon them so completely could not shift for themselves.

Today, the position of the builders and mortgage bankers who have clamored for more and more government participation and subsidy is not unlike that of the poor sea gulls. We may be a lot better off in the long run, if instead of waiting for the shrimp boats to return with higher government interest rates and more FNMA money, we endeavor to find some way to develop a greater degree of self reliance.

BROWN L. WHATLEY, *president*  
*Stockton, Whatley, Davin & Co.*  
Jacksonville 2, Fla.

Sirs:

I don't know how anyone can disagree with the position you have taken on this very important question. We in the thrift and home-financing business appreciate the attendant dangers to government regulation and control and the need for an honest and forthright declaration such as you have published in your recent editorial.

Congratulations upon your courage and the principles proclaimed.

VERNON S. WELCH, *executive vice president*  
*Savings & Loan League of Minn.*  
Minneapolis, Minn.

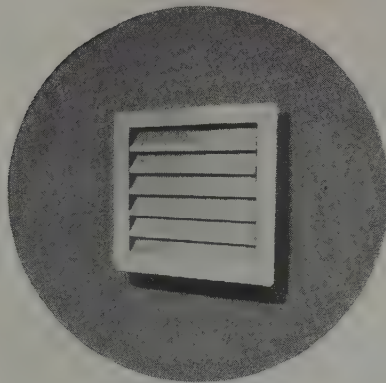
*continued on page 18*



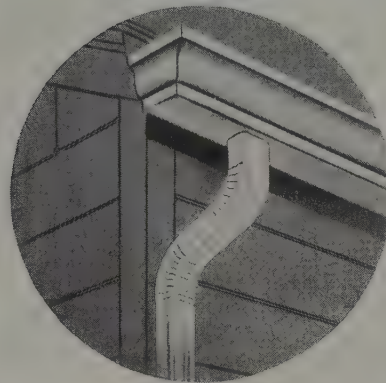
Ceco windows let dry air in  
...moisture out



Ventilators circulate air  
...reduce humidity



Rain goods drain roofs  
...keep water outside



One of the most bothersome problems

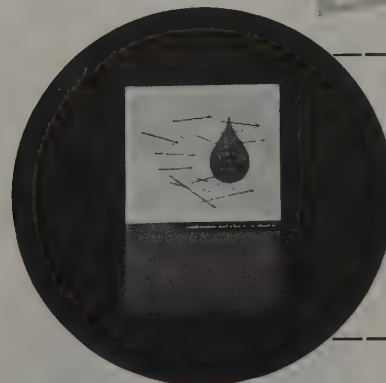
to home owners is condensation.

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**Kitchen-equip with WASTE KING Pulverator and show customers the advantage in buying your homes!**

WASTE KING Pulverator is the most modern VISIBLE FEATURE you can put into your homes — the lowest budget, highest quality feature that upgrades the home, bringing top dollar prices!

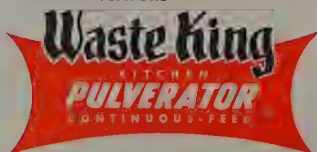
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A Product by GIVEN Mfg. Co. Dept. MB-11, Los Angeles 58, Calif.  
Largest independent producer of garbage disposers in America!



OVER 300,000 IN DAILY USE

## LETTERS continued

Sirs:

We agree thoroughly and have written to our Senator and our Congressman, urging them to see that this mess is cleared up as an early date.

We hope this editorial (and many more like it) will tend to correct the situation, not during this administration at least during the early days of our next one.

C. R. RAQUEST, vice president-manager  
F. C. Russell Co.  
Cleveland, Ohio

Sirs:

I thoroughly agree that not only the building industry, but the mortgage banking fraternity as well, should do everything in their power to get the government out of its present position of control over both. Artificially low interest rates are being maintained purely for political reasons. In my opinion this is primarily to encourage direct lending and secondly to give some impetus to public housing.

I wish your editorial might be distributed on the front page of every principal newspaper in the country.

N. R. LLOYD, president  
Allied Mortgages, Inc.  
Cleveland, Ohio

## CHEAP HOUSES

Sirs:

Private builders, in trying to meet or combat the threat of public housing, are trying to build too cheap a house. I can't see why they don't realize their errors and fight for a program that would offer the private builders a guaranteed subsidy per unit on housing authorized by local housing agencies for low income families. I think such a program would get the low rents possible and still let the private builders build the needed units. I don't like your crack about buying everybody a better car (H&H, July '52) and comparing this to the need of a low-income family for having a decent place to live.

PAUL HAYDEN KIRK, architect  
Seattle, Wash.

## TEXTBOOK FOR CANADA

Sirs:

There are certain aspects of architect Johansen's "Textbook House" (H&H, June '52) structural system which we feel can be adapted to a problem we are trying to solve concerned with the erection of frame structures in the far north. Specifically, we are trying to evolve a precast system which could be erected by local unskilled labor under the supervision of only one or two trained men.

Before we proceed however, we would like to have Mr. Johansen's permission to use his ideas as a basis for our studies.

C. V. F. WEIR, chief  
Dept. of Resources & Development  
Canada



**HOW J & L JUNIOR BEAMS  
SAVE TIME, SOLVE  
DESIGN PROBLEM AT  
LOW COST IN  
ST. CHARLES  
SCHOOL  
YOUNGSTOWN, OHIO**

Architect P. Arthur D'Orazio and George J. Murphy Company, contractors-engineers, of Youngstown, Ohio, have employed lightweight J&L Junior Beams as cantilevered roof purlins at the Boardman Center's ultra-modern St. Charles School near Youngstown. J. A. McMahon, Ltd., Niles, Ohio, fabricated the 85 tons of structural steel and 35 tons of Junior Beam joists going into the framework.

Notched over lintel beams and cantilevered four feet beyond the outside walls, J&L Junior Beams support not only the roof but also an attractive permanent sun shield over classroom window walls.

Because of their versatility and adaptability, J&L Junior Beams go far towards meeting the demands of today's builders. They cost less to buy and less to erect. Lightweight, 12" Junior Beams, 11.8 lbs. per foot, 30 ft. long, may be easily raised, placed and bolted directly into position by three men with the aid of only a hand-operated winch.

The lightweight and consequent ease with which Junior Beams can be handled led to fast, economical construction that helped hold building costs to a minimum. ALL STRUCTURAL STEEL INCLUDING THE JUNIOR BEAM ROOF PURLINS WAS ERECTED BY 6 MEN IN 2 DAYS.

**ARCHITECTS — CONTRACTORS**

If you're engaged in the design, or construction of light occupancy buildings, you'll be interested in these features offered by J&L Junior Beams. EASY TO INSTALL, RIGID, VIBRATION RESISTANT, SHRINK PROOF, LOWEST DEFLECTION FACTOR OF ANY STRUCTURAL SECTION OF EQUIVALENT WEIGHT.

Why not write today for our new booklet: "Skyscraper Construction for Every Building"? It shows how Junior Beams are used as floor joists, and roof purlins with loading and spacing tables for various spans.

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PITTSBURGH 30, PA.**



**Jones & Laughlin Steel Corporation  
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Please send me a copy of the booklet entitled,  
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(Architects, Builders, Contractors)



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# PROSPECTS SEEK OAK FLOORING IN LOW-COST HOMES



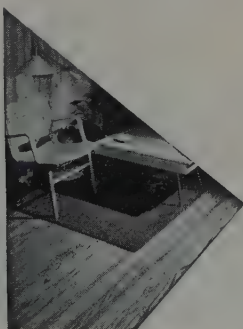
New and more economical building methods are enabling architects to specify oak flooring for the low-cost homes they design. This is important because real estate agents report that prospects look for and want oak flooring and its benefits in their new homes.



By specifying that oak flooring should be laid over concrete slabs\* using screeds set in mastic, architects are making it possible for low-cost home owners to have all of oak's basic benefits: economy, durability and "healthfulness."



An important reason that 85% of all prospective homeowners want oak flooring in their next homes is the realization that oak is the easiest floor to care for. A few strokes with a dust mop is all that is needed to keep an oak floor glistening.



*85% of all Prospective Homeowners*  
want oak in their next home

\*SEND TO NATIONAL OAK FLOORING MANUFACTURERS' ASSOCIATION, STERICK BLDG., MEMPHIS 3, TENNESSEE,  
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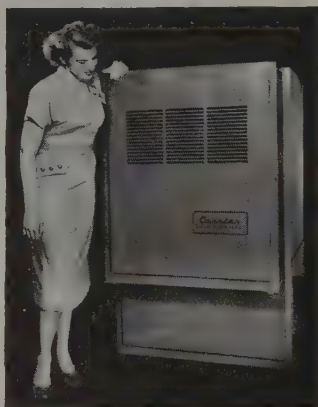
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## PRODUCT NEWS



**PACKAGED AIR CONDITIONER** designed for  
low-cost home

Many small-home builders are waking up to  
the pull of year-round air conditioning but  
have been holding out for a compact unit they  
could afford to include in their \$15,000-and-  
under houses. (See *Progress in Air Condi-  
tioning*, p. 148.) Now Carrier Corp. can tell  
them to stop waiting. At a press preview last  
month, company president Cloud Wampler  
forecast tomorrow's weather inside the mass  
home market as fair and delightful; and,  
giving his prediction a positive nudge, intro-  
duced two outstanding developments in resi-  
dential cooling:

### Big-little cooler-heater

Bigger and brighter of the bouncing babies  
is the new two-ton, 62" high *Weathermaker*,  
which can snuggle into a closet about 3' x 3'.  
Installed for about \$800 more than a good  
warm-air heating system, the all-year unit will  
serve an average three-bedroom house of  
about 1,200 sq. ft., cooling it in summer, heat-  
ing during winter and circulating air in be-  
tween seasons. As an added feature for homes  
where water is in short supply, the conditioner  
can be obtained with an air-cooled refrigerant  
condenser coil that can be hitched onto a wall  
in the utility room or garage. Cost to the  
consumer for the two-ton model comes to  
about \$4 a month over a 20-year mortgage.



**Room unit is not a mugwump**

Although the central conditioner (and others  
of its ilk) should eventually carry more  
weight in the construction business, Carrier's

*continued on page 190*

Forum was first  
to present...

## all the buildings which won **Architectural League Gold Medal Awards**

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by Skidmore, Owings & Merrill.
- The Museum of Modern Art, New York City,  
by Louis C. Jaeger associated with  
Edward D. Stone.
- 1951** Harvard University Graduate Center,  
Cambridge, Massachusetts,  
by The Architects Collaborative.
- 1952** Hotel Panama, Panama City, Canal Zone,  
by Edward D. Stone.

*...and all these buildings were  
first graphically presented,  
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the Architect's favorite  
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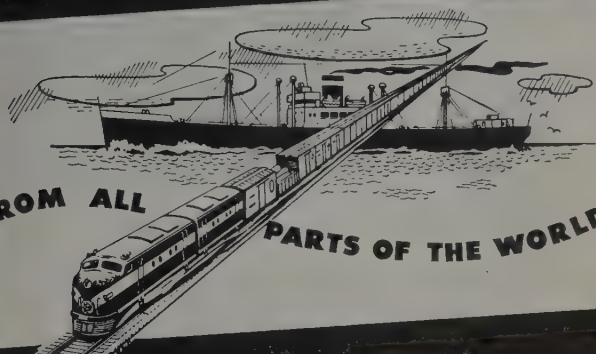
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THE MAGAZINE OF BUILDING



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*Come Rare and  
Rugged Woods  
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**AVAILABLE IN THESE FACE VENEERS**

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### IMPORTANT

THOMASON plastic-faced flush doors are now available in  
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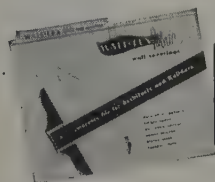
## Wall decoration is simplified with pre-trimmed 24-inch Wall-Tex



This new "double feature" makes it easy for anyone to hang Wall-Tex — faster, more economically and with a professional look! Wall-Tex is trimmed accurately — smooth and true, no rough, frayed edges. Rolls are specially wrapped, free from soiling or damage.

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The fabric base protects against tearing while hanging Wall-Tex — and protects decoration for years by keeping plaster cracks under control. Widely used for dry walls, strengthens all types of wall construction. The fabric adds textured richness, makes all rooms more luxurious. Safely washable colors and finishes — a thoroughly sound investment. 200 beautiful patterns and colors — all pre-trimmed, 24 inches wide. Mail coupon for File Folder and Wall-Tex swatches.



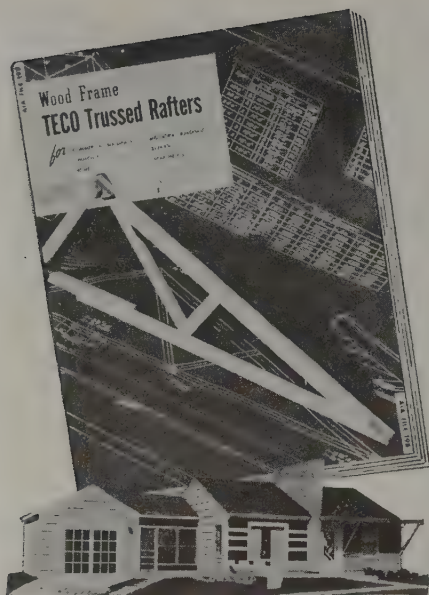
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## More than 104,000 housing units have been built with **TECO TRUSSED RAFTERS**

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See how others have saved time, money and materials by using TECO Trussed Rafters in homes, schools, churches and other building construction . . . send for your FREE copy of this booklet TODAY.

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Please send FREE copy of "Wood Frame TECO Trussed Rafters."

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City.....Zone.....State.....  
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## PRODUCT NEWS *continued*

new room units very likely will take the bows at the first curtain call. Instead of the familiar mugwumps—half in, half out the window—the simply styled cabinets may be set flush with the window frame or wall, or can be brought in the room and built into a storage wall with only the rear intake grill exposed to the outdoors. Prices are expected to parallel those of this year's 1/3, 1/2 and 1 h.p. room models.

Manufacturer: Carrier Corp., Syracuse, N. Y.

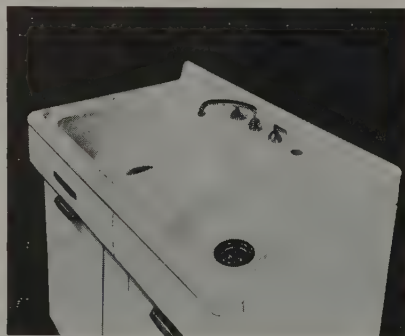
### **DOWNFLOW FURNACE engineered for perimeter warm-air delivery**

Specifically designed for perimeter heating systems, the oil-fired *Superfex* F-601 is delivered to the job fully wired and assembled. Attachment to ducts running under the floor (or in a slab) and connection to fuel supply, 110 v. power line and thermostat cable complete the installation. Encased in a simple, white baked enamel jacket 22" wide and 25" deep, the F-601 takes up about as much floor space as a bridge chair, and so is suitable for placement in a small utility room or alcove. Its front panels are easily removed for access to the enclosed burner and blower controls, and cleanout ports. The F-601 has a 74,000 Btu capacity and sells for about \$345. When or where fuel costs indicate, the unit may be switched from oil to gas with an easily attached conversion burner.

Manufacturer: Perfection Stove Co., 7609 Platt Ave., Cleveland 4, Ohio.

### **CABINET SINK has shallow tubs, modest price tag**

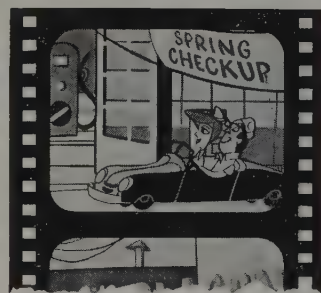
Retailing for \$119, this compact double-bowl sink is sensibly designed for the small kitchen. Because many homemakers prefer to delegate the bulk of laundering to machines, in this



appliance Murray bids adieu to the deep, aching-back tub by making both bowls just 6 7/8" deep—comfortably shallow for dishwashing and light laundering. The model stands 39" high, is 25" deep and 42" wide. It has a provision for a hose-spray mounting and is available with a sliding drainboard at small additional cost.

Manufacturer: Murray Corp. of America, Scranton 8, Pa.

Technical Publications page 196



## *At your age!*

If you are over 21 (or under 101) it's none too soon for you to follow the example of our hero, Ed Parmalee (above) and face the life-saving facts about cancer as presented in our new film "Man Alive!". You'll learn, too, that cancer is not unlike serious engine trouble—it usually gives you a warning:

(1) any sore that does not heal (2) a lump or thickening, in the breast or elsewhere (3) unusual bleeding or discharge (4) any change in a wart or mole (5) persistent indigestion or difficulty in swallowing (6) persistent hoarseness or cough (7) any change in normal bowel habits. While these may not *always* mean cancer, any one of them should mean a visit to your doctor. Most cancers are curable but *only* if treated in time!

You and Ed will also learn that until science finds a cure for *all* cancers your best "insurance" is a thorough health examination every year, no matter how well you may feel—twice a year if you are a man over 45 or a woman over 35.

For information on where you can see this film, call us or write to "Cancer" in care of your local Post Office.

*American  
Cancer  
Society*





## DEALER FRANCHISES

now available for UNIT homes that challenge ALL Comparison



you've never seen homes like these in the LOW COST field



Complete Line of Factory Engineered Homes with 2 and 3 Bedrooms available in Ranch Style, 1 story and 1½ story models.

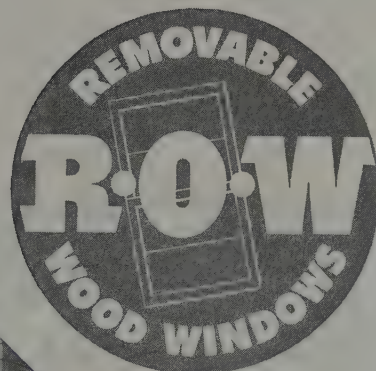
UNIT homes are field erected in half the time... less labor... without the uncertainties of conventional construction.

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### Homes With R•O•Ws Sell Faster—Stay Sold Longer

Buyers are selecting homes with great care today. They are choosing those homes which combine beauty with comfort and efficiency features—plus values that set them apart.

That's why some homes are sold before completion, and others carry a "For Sale" card for many months before moving.

Volume production has kept the price down to the cost of ordinary wood windows.

R•O•Ws have outsold all competitors for years, and their popularity is still increasing.

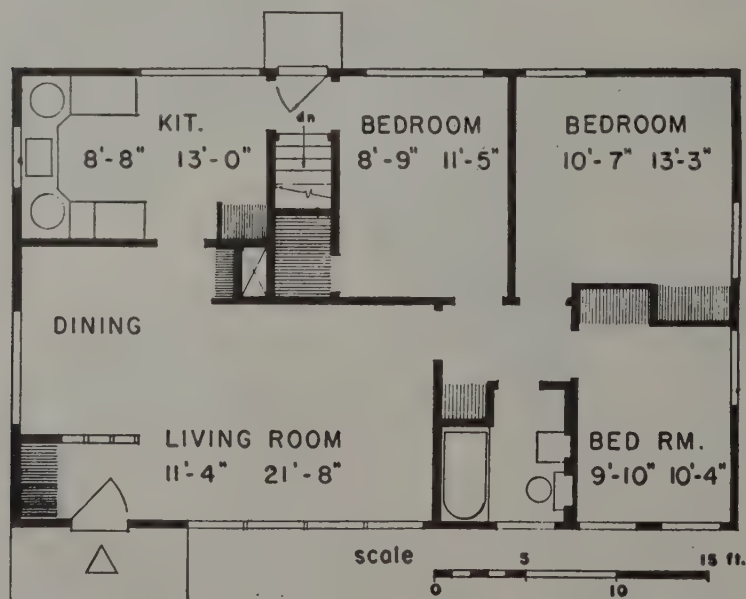
R•O•W SALES COMPANY 1342-76 ACADEMY AVENUE • FERNDAL 20, MICHIGAN

Number 2 of a series:

## BUILDERS OF AMERICA . . .



Architect: M. E. Harris, Jr. A.I.A.



In 1951, Brockbank's "innovation of the year" was this three-bedroom "Certified Quality" house, with living-dining room up front, lit by big windows. With 960 sq. ft., this came in a "standard" model at \$11,000, a "de luxe" for \$13,000, including garage, paved terrace, appliances, fence and landscaping.



# Alan Brockbank

Alan Brockbank has been called "Mr. Average Home Builder, U.S.A."—a combination of the old on-the-job supervising contractor and the new, up-to-date merchant builder. One of Salt Lake City's biggest builders, he is also president of the National Association of Home Builders.



*"Today, we builders are faced with a real challenge. To keep our production up, we are going to provide larger, more liveable houses at a price most home-buyers can afford to pay. This means harder selling on our part and better merchandising of the nationally advertised products we are using. The builder must stand behind his house; the manufacturer behind his product. Then home-buyers will know that if we use quality products, the house is a good safe buy."*

**Every week**, advertising in LIFE reaches 11,880,000 households across the nation. In the course of 13 weekly issues, LIFE reaches 25,640,000 households—or more than 60% of the entire U.S.

These LIFE households represent the better half of your market, too. In 13 issues, LIFE reaches 86%

of all the households in America with incomes over \$7,000. And more than 58% of LIFE-reading households own their own homes.

When you advertise your products in America's biggest *big* magazine, you're selling to the world's largest and most receptive magazine audience.

\*Figures above are from *A Study of the Household Accumulative Audience of LIFE* (1952), by Alfred Politz Research, Inc. A LIFE-reading household is one in which one or more of the adult members reads one or more of 13 issues.

first in circulation  
first in advertising  
first in the homes of America



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Specify  
**FOLLANSBEE SEAMLESS  
 TERNE METAL ROOFING**  
 for long-lasting,  
 trouble-free roofs



ON SCHOOLS  
 and institutions

ON CHURCHES



ON "MODERN"  
 HOMES, requiring  
 flat or low-pitch roofs



ON TRADITIONAL  
 HOMES



You can be sure your client has *maximum* roofing protection and *economical* metal roof construction when you specify Follansbee Terne Metal Roofing.

You get *all* of these advantages in *one* roofing material when you specify Follansbee Terne Metal—

- Permanent, lifetime roofing.
- Always acceptable.
- Ductile, easy to install.
- Resists electrolysis. Flashes with other metals.
- Unlimited design possibilities.
- Fireproof, windproof, weatherproof.
- Unlimited roof and trim color combinations.
- Expansion and contraction are negligible.

Follansbee 40 lb. Coated Terne Metal is now available.

Got some tough roof design problems? Send us your plans or drawings. Detailed information on design and construction methods will be sent you promptly.

## FOLLANSBEE STEEL CORPORATION

GENERAL OFFICES, PITTSBURGH 30, PA.

POLISHED BLUE SHEETS AND COILS SEAMLESS TERNE ROLL ROOFING  
 COLD ROLLED STRIP

SALES OFFICES—New York, Philadelphia, Rochester, Cleveland, Detroit, Milwaukee. SALES AGENTS—Chicago, Indianapolis, Kansas City, Nashville, Los Angeles, San Francisco, Seattle; Toronto and Montreal, Canada. MILLS—Follansbee, W. Va.



FOLLANSBEE METAL WAREHOUSES

Pittsburgh, Pa. Rochester, N. Y. Fairfield, Conn.



For Pennies a Day! A Proven Convenience for HOMEOWNERS!

Thousands of CRANE "300" garage door operators have been installed all over the nation. The CRANE "300" is the most convenient to install on garage doors.

CRANE remote control operators help eliminate bad weather annoyances and

make dark driveways and garages safer! Push a button on your car's dash . . . the garage door goes up and the lights come on. Push it again . . . and the operation is reversed. Easily installed, it's the appliance liked best by all homeowners. Complete details FREE!

ENDORSED  
 BY LEADING  
 ARCHITECTS AND  
 BUILDERS!

**H. W. CRANE CO.**

1443 W. Lake St.  
 Chicago 7, Illinois

Sirs: Without obligation to me, please send complete details on the Crane "300" Remote Control Operator. Bulletin, H-11.

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

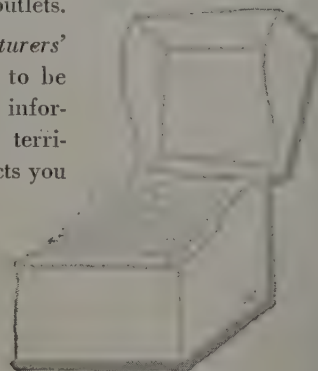
## manufacturers' agents

house + home is compiling a new list of Manufacturers' Agents who are interested in adding new lines (homebuilding products, materials, equipment, specialties, etc.).

When completed, this list will be available to manufacturers seeking new outlets.

If you are a *Manufacturers' Agent* and would like to be listed, please send full information, including your territory and types of products you want to handle, to:

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 Advertising Director  
 house + home  
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**KNOX HOMES**  
offers special **CRANE ERECTION SERVICE**  
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Dwellings, 4 to 7 Rooms.  
Duplexes, 4 to 5 Rooms.

Designed by fine small-home  
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The answer to fast, profitable  
operations.

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**Of Course it  
Costs More, but**



**Is Worth  
DOUBLE the DIFFERENCE  
In Beauty-Savings  
and Prestige!**

Pittsburgh Interlock is in a class  
by itself — in beauty, in adding  
low-cost luxury to bathroom or  
kitchen. And its exclusive,  
patented Interlock gives it *perma-  
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For homes, apartments, hotels,  
buildings and stores . . . write  
today for the full color book.



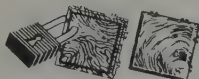
EXCLUSIVE OF A FUTURE OF BEING  
Guaranteed by  
Good Housekeeping  
as NOT AN ADVERTISED TILE

**JONES & BROWN, INC.**

439 Sixth Ave. • Pittsburgh 19, Pa.

Makers of Pittsburgh GEM TILE  
"Jewel of Wall Tiles"

**THE BEAUTY IS LOCKED-IN!**



Beauty that endures! The lovely  
pastel colors go thru and thru—  
front to back.

**THE DIRT IS LOCKED-OUT!**



A dream to keep clean! No dirt-  
catching mortar lines. Just wipe  
with a cloth.

**THE TILE IS LOCKED-ON!**

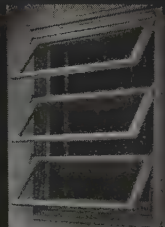


No trouble! Exclusive, patented  
Interlock locks tiles to each other  
and to wall.

# Gate City

Preservative-Treated WOOD  
**AWNING WINDOWS**

Designed for year-round  
living comfort!



Picture Window  
beauty with *accent*  
on ventilation.

OPENS WIDE TO INVITE COOLING BREEZES  
TILTS TO ANY ANGLE TO CONTROL DRAFTS  
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GUARDS AGAINST PROWLER ENTRY WHEN OPEN  
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**EASILY WINTERIZED**

Full Inside Limite Screens are  
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THERMOPANE (double glazing)  
available on special order.



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**Awning-Window-Wise**  
You'll be COOLER in the Summer  
WARMER in the Winter  
SAFER all the time!

GATE CITY SASH & DOOR CO.  
P.O. Box 901, Fort Lauderdale, Florida

H&H-110

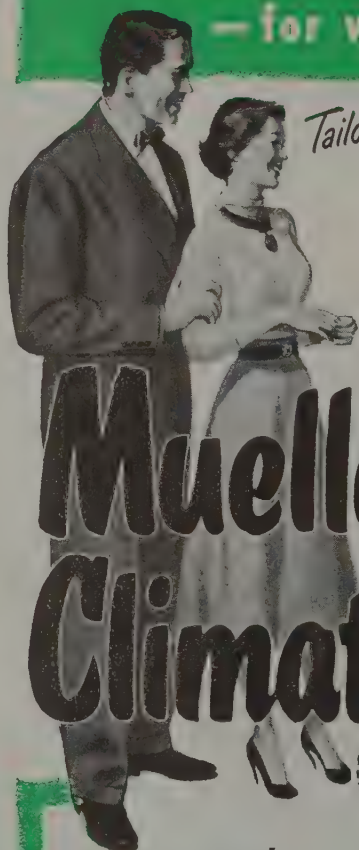
I plan to build ☐ remodel ☐  
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ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

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the **BIG NAME**  
in **HEATING**  
— for warm air heat!

*Tailor-made for today's homes!*



**Mueller  
Climatrol**

Winter Air Conditioners  
for gas or oil; 60,000  
to 675,000 Btu (Type  
110 shown)

**... meets your customer's demand  
for warm air heating at its best!**

You're sure to satisfy your customers when you give them what they want. And when it comes to warm air heating they want the Big Name—Mueller Climatrol!

It's a line designed to meet every need — sizes and types for every home ... for gas, for oil, for coal ... forced-air or gravity ... steel or cast-iron ... hi-boy, low-boy or horizontal design ... unit heaters ... conversion burners ... Mueller Climatrol fills the bill!

With a Mueller Climatrol you can meet their demands and count on their good will. Specify and recommend the Big Name in Heating. Write for our new "all product" catalog ... L. J. Mueller Furnace Co., 20201<sup>st</sup> W. Oklahoma Ave., Milwaukee 15, Wisconsin



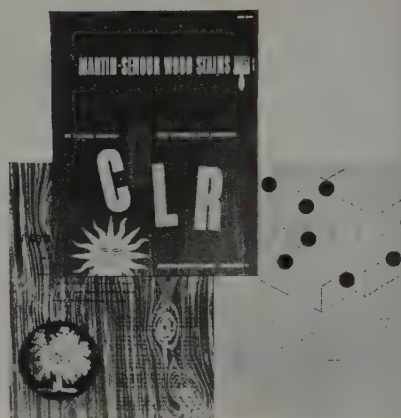
Gravity Furnaces —  
for gas or oil; 90,-  
000 to 180,000 Btu  
(Type 111 shown)



**Mueller Climatrol**

**FOR GAS FOR OIL FOR COAL**

## TECHNICAL PUBLICATIONS



**WOOD STAINS.** Martin-Senour Color Stains. Martin-Senour Co., 2520 S. Quarry St., Chicago 8, Ill. 8 pp. 8½" x 11". \$1.50

An attractive and useful decorating aid, the folder demonstrates Martin-Senour's impressive line of color stains on 40 actual wood chips. Used the same way as conventional stains, the rainbow palette of 169 tones is prepared for application to all kinds of wood surfaces inside the house—walls, furniture, floors, ceilings, trim, etc.—as well as to exterior wood siding, shingles and shakes. The guide gives instruction for using the stains on close-grained and open-grained woods, and tells how to obtain such effects as blond and pickled finishes. Above and beyond the wide range of warm brown and gray hues, the new stain group encompasses many blues, reds, yellows and greens—the latter tones seemingly canned for the more chi-chi decors. But even these shades are subtly grayed.

**FLOORING.** Hako Vinyflex Plastic Floor Tile. Hachmeister Inc., Pittsburgh 13, Pa. 6 pp. 3½" x 8"

The folder cites features of Hako's Vinyflex plastic floor tile, recommending it for use in homes as well as commercial and institutional applications.

**HARDWARE.** Doorways to Happier Living. The Stanley Works, New Britain, Conn. 16 pp. 8½" x 11"

A pictorial guide to Stanley hinges, latches, bolts and doorknobs, the brochure should be useful to architects and builders who select and specify hardware.

**LIGHTING.** Lighting Fixtures. The Sheldon Lighting Co., Roosevelt, N. Y. 4 pp. 8½" x 11"

The folder describes a line of metal lighting fixtures for homes and commercial buildings. Outline dimensions, specifications, and list price are noted beneath drawings of each style wall and ceiling fixture.

*continued on page 198*



# BRADLEY

## PREFINISHED OAK FLOORS

### *Give You So Much More!*

#### ... Here Are Two Stand-out Reasons:

**1.** *Straight-line* ripping by specially designed saws, used in processing rough oak for the flooring machines, produces *precisely straight strips*. This exclusive method eliminates *crook*, so that the finished tongue and groove strips draw up *exactly parallel from end to end*. Result: a stress-free, stabilized floor that stays mirror-smooth.

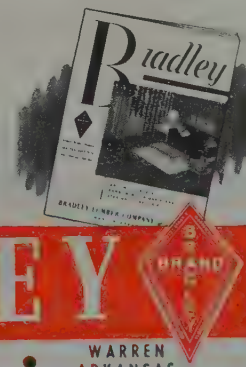
In Bradley Unit Block assembly, the straight-line feature assures total integration in matching and splining of component strips.



**2.** Bradley's penetrating primer, superior transparent finish and heavy-bodied wax are mechanically applied and buffed with precision uniformity. Costing less than sanding and finishing on the job, this formula and method bring the natural figure of oak into clear relief and provide a floor of rich luster and matchless decorative beauty.

Bradley's premium quality hardwood floors include standard *straight-line strip* and Unit Blocks\* in Oak, Beech and Pecan; Random Width Oak Plank; each prefinished or unfinished. For complete specifications see Sweet's Architectural and Builders Catalogs, or write for your file copy.

\*For mastic or nail installation.

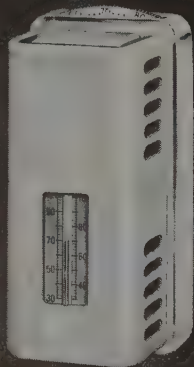


# BRADLEY

LUMBER COMPANY of Arkansas

WARREN  
ARKANSAS

## WHITE-RODGERS Hydraulic-Action THERMOSTATS

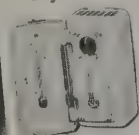


### UNEQUALED for HEAVY DUTY SERVICE

The attractive Ivory and Chrome design, plus such features as *locked case, limited settings, "on-off" switches, concealed dials, etc.*, make these thermostats ideal for installations in public buildings where heavy traffic requires fine appearance and *tamper-proof* operation.

Rugged switch will handle most line voltage heating or cooling jobs without use of relays or motor starters. Hydraulic-Action sensitive element assures positive accuracy and long dependable service.

Write today for Complete White-Rodgers Catalog.



**WHITE-RODGERS**  
**Controls**  
FOR REFRIGERATION  
HEATING AND  
AIR CONDITIONING

ST. LOUIS 6, MO.

## TECHNICAL PUBLICATIONS *cont'd.*

**ADHESIVES.** Miracle Adhesive Products for Thin-Set Genuine Clay Tile. Miracle Adhesives Corp., 214 E. 53 St., New York 22, N.Y. 20 pp. 8½" x 11".

This concise manual is a handy reference on the manufacturer's *Thin-Set* method of setting clay tile. Detailed two-color isometrics illustrate applications of clay tile over



plaster, gypsum wallboard, troweled brown gypsum, and white plaster coat; show how to set it on floors, walls and ceilings.

**HEATING.** Automatic Comfort with Reznor Gas Heaters, Catalogue No. GN-52. Reznor Mfg. Co., Mercer, Pa. 20 pp. 8½" x 11"

Completely revised to include data on new additions to the company's gas-heater line, the current catalogue presents data on four types of Reznor equipment: suspended unit heaters; unit-type room heaters; central gas heaters; and gas-fired duct furnaces. The material is neatly organized and well illustrated.

**HEATING.** Kewanee Round "R" Steel Boiler, Catalogue No. 92, Kewanee-Ross Corp., Div. of American Radiator & Standard Sanitary Corp., Kewanee, Ill. 4 pp. 8½" x 11"

This catalogue sheet describes the manufacturer's residential boiler for oil, gas or stoker firing. A three-color cutaway drawing illustrates the unit's operation; and its ratings, dimensions and accessories are listed.

**KITCHEN PLANNING.** KP Kit. The Murray Corp. of America, Home Appliance Div., Scranton 2, Pa. 1 p. 5" x 11½"; 1 p. 8½" x 11"

Complete and accurate kitchen layouts may be worked out with two simple devices available from the Murray Corp. A cardboard template of standard-size kitchen cabinets and appliances, and a scaled chart comprise this planning aid for designers and builders. Sketching guides for window sash, door width and trim are included on the template. Accompanying each kit are spec sheets covering the manufacturer's complete line of ranges, cabinets, cabinet sinks, refrigerators, dishwashers and automatic clothes washers—all of which fit the cardboard cutouts.

*continued on page 200*

## See the latest of MIES VAN DER ROHE in the November architectural Forum

For a closehand view of Mies' newest buildings which even on-the-spot visitors will rarely see—don't miss Forum's full-range and precise report which brings you—

—**860 Lakeshore Drive, Chicago** where Mies has carried the "steel cage" to an ultimate—structurally and aesthetically—in creating his biggest building, impressive for its exposed steel verticals and uniform curtaining

—the **Illinois Institute of Technology**, where, in one campus building group, Mies has significantly related elements as diverse as a chapel and a power plant

—the newly completed prototype for a new group of **row houses** where Mies reached a new degree of flexibility and simplicity in domestic planning.

And the same **November** issue brings you much more about Mies—and other architects. You'll see new **airport terminals** which show a hopeful advance beyond yesterday's monumental terminals which merely "got in the passenger's way." You'll see a portfolio of new ideas in architectural **engineering**, **Hakon Ahlberg's** new medical center in Venezuela and many more significant design features in Forum, the magazine which brings you the architect's **favorite buildings first**.

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THE MAGAZINE OF BUILDING

## architectural forum

540 North Michigan Avenue, Chicago 11, Ill.



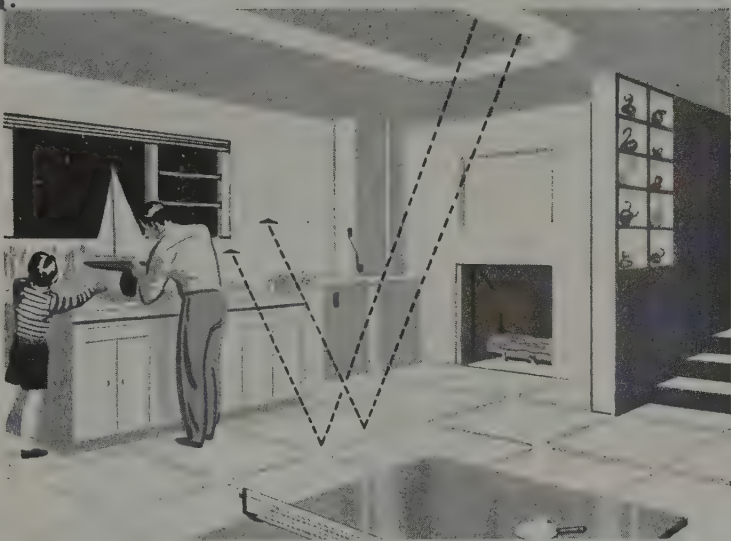


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... the whitest  
white cement ... a true  
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A Product of GENERAL PORTLAND CEMENT CO. • Chicago • Dallas • Chattanooga • Tampa • Los Angeles



... AND DOES IT BETTER ... INSIDE OR OUT!

STATEMENT OF THE OWNERSHIP, MANAGEMENT AND CIRCULATION REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933 AND JULY 2, 1946 (Title 39, United States Code, Section 2331 OF HOUSE & HOME, published monthly at New York, N. Y. for October 1, 1952.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, P. I. Prentice, 9 Rockefeller Plaza, New York, N. Y.; Editor, Henry R. Luce, 9 Rockefeller Plaza, New York, N. Y.; Executive Editor, Suzanne Gleaves, 9 Rockefeller Plaza, New York, N. Y.; General Manager, Robert W. Chastaney, Jr., 9 Rockefeller Plaza, New York, N. Y.

"2. That the owner is: Time Incorporated, Time & Life Building, New York 20, New York; that the names and addresses of stockholders owning or holding one per cent or more of total amount of stock are: Henry P. Davison, c/o J. P. Morgan & Company, P. O. Box 1266, New York, N. Y.; William V. Griffin, 20 Exchange Place, New York 5, N. Y.; William Hale Harkness, c/o New York Trust Company, Income Collection Department, 100 Broadway, New York 5, N. Y.; Irving Trust Company, New York City, successor trustee under the will of Briton Hadden for the benefit of Elizabeth Busch Pool, c/o Irving Trust Company, Custodians Department, 1 Wall Street, New York 15, N. Y.; Margaret Zerbe Larsen, c/o Time Inc., Time & Life Building, Rockefeller Center, New York 20, N. Y.; Roy E. Larsen, c/o Time Inc., Time & Life Building, Rockefeller Center, New York 20, N. Y.; Henry R. Luce, c/o Time Inc., Time & Life Building, Rockefeller Center, New York 20, N. Y.; The Henry Luce Foundation, 9 Rockefeller Plaza, New York 20, N. Y.; Samuel W. Meek, c/o Greenwich Trust Company, Greenwich, Conn.

Stock to the extent of more than one per cent is registered in the names of the following companies, but in each case the company is a nominee for a number of stockholders, no one of whom is known to own more than one per cent: Brown Brothers, Harriman & Company, 59 Wall Street, New York 5, N. Y.; Cobb & Company, c/o New York Trust Company, 100 Broadway, New York 5, N. Y."

3. The known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

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State of New York } ss:  
County of New York }

(Signed) Robert W. Chastaney, Jr.,  
General Manager,

Sworn to and subscribed before me this 26th day of September, 1952.  
(Signed) Veronica C. Biehl,  
(My Commission expires March 30, 1953)

[SEAL.]

VERONICA C. BIEHL, Notary Public for the State of New York, Qualified in New York County, No. 31-0288350, Cert. filed with City Register, N. Y. County, Commission Expires March 30, 1953.



WHERE VENTILATION AND VISION...

ARE NEEDED IN  
GLASS BLOCK  
CONSTRUCTION...

Install

**MARMET**

**GLASS BLOCK  
VENTILATORS**

Enhance the beauty as well as the utility of glass block panels and walls ... install the MARMET Ventilator, the practical window that provides ventilation and vision for glass block construction ... can be used in groups, side by side or one above the other ... available in stock sizes, but special sizes can be built to your specifications. MARMET Aluminum Louver Block may be used to replace a single 8" x 8" glass block panel ... a self contained unit, glazed and screened with a metal louver on the exterior surface.

Other MARMET Products ...

MARMET ALUMINUM WINDOWS for glass block construction (ribbon windows, church and chapel windows, casement and projected windows, residential picture windows, custom windows.)

MARMET ALUMINUM WALL OF WINDOWS, complete louver blocks ... picture windows.

Complete catalogs of information upon request.  
Write for them today.



Wausau • Wisconsin

# ELKAY

the world's finest stainless steel sink  
NOW AVAILABLE THREE WAYS!



## Size-to-Suit

① Over fifty sizes available from stock—single and double bowl models ranging from 39 to 144 inches. Economies of standard production bring stainless steel sink prices down within easy reach of all.

## Modular Plan

② Now you can design custom convenience at low standardized prices. Specify Modular counter-tops, corners, return ends and fillers of stainless steel to fit any plan—match up with standard sinks.



## Custom Built

③ For homes or institutions that require the unequalled beauty, permanence and sanitation of famous Lustritone "one-piece bonded" construction. Specify Elkay! Be assured of perfect fit, satisfaction.



### 50 "SIZES-TO-SUIT" EVERY KITCHEN PLAN

#### 21 SINGLE BOWL MODELS

—two styles in the following sizes:

38" • 42" • 48" • 54" • 60" • 66" • 72" • 78" • 84" • 90" • 96"

#### 29 DOUBLE BOWL MODELS

—two styles in the following sizes:

60" • 66" • 72" • 78" • 84" • 90" • 96" • 102" • 108" • 114" • 120" • 126" • 132" • 138" • 144"

*ELKAY*  
Lustritone

ELKAY MANUFACTURING COMPANY  
1898 South 54th Ave., Chicago 50, Ill.

the **only** sink guaranteed to outlast the home!

**ALUMINUM WINDOWS.** Simplified Instructions for the Proper Handling and Installation of Aluminum Windows, No. 52 RC and No. 52 RDH. Aluminum Window Manufacturers Assn., 74 Trinity Pl., New York 6, N.Y. 8 pp. each. 8½" x 11"

Bending an ear to unsatisfied customers (by far in the minority) the Aluminum Window Manufacturers Assn. felt that most of the charges made against the products so dear to its collective heart could be traced to poor handling and improper installation. Apparently many builders were treating aluminum windows a little roughly and improvising their own attachment methods. So the association has prepared these two simple manuals on how to handle, unload and store aluminum windows; prepare openings in frame and masonry construction; install, adjust, glaze and clean the units. The first brochure deals with casement windows and the second with double-hung units. In each, captioned sketches tell the story.

**FLOORING.** Meet Every Flooring Demand. Yawkey-Bissell Hardwood Flooring Co., White Lake, Wis. 8 pp. 8½" x 11"

The brochure contains instructions on nailing and laying four types of hardwood flooring: continuous strip, plank and strip, pattern, and block. Illustrated by line drawings, full-color photos and charts, the publication describes the cuts and wearing qualities of northern hardwoods—maple, oak, birch and beech—used in the manufacture of Yawkey-Bissell floor products.

**FLOORING.** Facts about Rubber Floors. The Rubber Manufacturers Assn., 444 Madison Ave., New York 22, N.Y. 16 pp. 5" x 7"

Published as part of a general educational program to familiarize building people and consumers with the features of rubber flooring, this nontechnical pamphlet briefly describes the product's manufacture, itemizes its advantages and gives suggestions on installation and maintenance of the resilient flooring material.

**FLOORING.** Recommended and Not Recommended Uses for Kentile, Kencork, and Ken-Rubber. Kentile, Inc., 58 Second Ave., Brooklyn, N.Y. 4 pp. 8½" x 11"

Packed into this file sheet are valuable tips for architects, builders and contractors on where to use and where not to use three kinds of resilient flooring. The folder charts uses for Kentile's asphalt, cork and rubber tile, indicating right and wrong applications for each in kitchen, bathroom, bedroom, living room, foyer and basement. One page of the guide explains how the three types of flooring are made and the kinds of surfaces over which each may be installed with good results. Light-reflecting characteristics and approximate installed costs for each of the floor coverings are also included.



## Round table letters:

### "The low income family and the too cheap house"

Scores of letters, for and against, provocative, adamant and informative, have poured in to HOUSE & HOME on the subject of its October Round Table.

The Round Table proposed extensive modernization of old dwellings, more liberal financing of improvements on existing houses and of the "*new but not too cheap*" house, and a functional "filter down" system to meet our housing needs.

Comments on these proposals came from all parts of the homebuilding industry. The issues debated are of such import that we have had to publish this special 12 page supplement.

#### From government officials

Men in key governmental positions were quick to sense the importance of the Round Table's program. Senator Sparkman, D., Alabama, approves heartily of the panel's motives, but labels its conclusions "an assist not an answer." HHF Administrator Raymond Foley defends FHA policy. Agreeing with the Round Table's conclusions, Jesse Wolcott, ranking Republican of the House Banking & Currency Committee says: "There is no economic justification for rent control." Director of VA Loan Guaranty Bert King seconds the idea that "existing homes must play an important role in satisfying the Nation's housing needs."

#### From newsmen

Newspaper editors tell how the program would fit the local needs of their own communities. A condemnation of the "cracker box" house comes from the *Oregon Journal* and a criticism of the "filter down" system from the *Houston Post*. "The boys talked cold turkey," says the real estate editor of the *Indianapolis Times*, but warns that a new housing ordinance being considered by the local Common Council is likely to prove "a hot potato."

#### From architects

Architects are particularly verbal. "Squeezing a house too much is like squeezing a lemon," says Royal Barry Wills of Boston. "Pretty soon all you have left is the rind and a squirt in the eye." But Architect Ed Fickett of Los Angeles believes it is inefficient management which delays the production of a really low-cost house.

#### Cross section of the industry

Builders, financiers, contractors, manufacturers, public housing enthusiasts—all have contributed their ideas, hopes and plans. Here indeed is a significant cross section of industry reaction to HOUSE & HOME's free enterprise plan to meet the need of better low cost housing.

## "Filter up" or "trickle down"

Sirs:

HOUSE & HOME's Round Table is encouraging in many respects; disturbing in others.

It is significant and encouraging, particularly to me, that such an industry group now publicly recognizes the importance of making new housing better in both quality and size, of replacing or rehabilitating our large volume of substandard housing, of meeting the needs of the lower-income market, of getting better building codes.

All of this is good.

On balance, I believe this Round Table reveals the growth of the one necessary major factor never before present in sufficient force to make real progress on the job—an industry awareness of what the total job really is. With that established, exchange and discussion of ideas as to method can begin to produce real results. No idea should be discarded because it is new.

As for the specific proposals which came out of the Round Table, it is always a bit discouraging to be told that private industry cannot make progress in serving the needs of the mass of our people unless the government underwrites practically all the risk. Yet this seems to be one of the conclusions to be drawn from the Round Table proposals. Further, it is surprising to be told in effect that the government has been keeping the industry from producing better housing because it does not underwrite substantially all of the risk no matter what the price. And I cannot agree that the policy which Congress established for FHA of insuring higher percentage loans as the price class descends is a bad one.

The Round Table completely overlooks the special provisions already offered by the FHA system to encourage bigger and better low-cost houses—provisions that relatively few builders have put to real use. These provide that \$7,000 maximum valuation base for 95% insured loans may be increased by \$1,000 each for adding a third and fourth bedroom. To construe the FHA limit on its most liberal terms as a policy to force all housing below \$7,000 is a completely mistaken idea. I fear it still reflects the effect upon the industry of the several years of emergency building and financing when homebuilding had to concern itself too little with costs, prices, design, and high quality. Fortunately, we now seem to be getting into a situation where a slightly more restricted market calls for real salesmanship and more competition in values.

There is a good deal of evidence that the market will absorb a great many more good houses if they are offered at attractive prices, with a larger down payment than some of the industry have been willing to admit.

Certainly the housebuilder's new interest in rehabilitating old houses is wholesome, though the idea itself is far from new, and housing officials have been calling attention to it for years. More than 13,000,000 Title I loans have been made to repair or improve existing houses. I wonder what would be the condition of existing housing if we had not been pursuing that course for years.

This is not to say, however, that there exists no opportunity for an amended type of government guarantee in this field. Indeed, this is one of the very promising aspects of the builders' new interest evidenced by the Round Table. Both the government and the industry could explore it with a view to more adequate remaking of old houses than is ordinarily possible under FHA's Title I. Whether some

of the specific proposals to that end advanced by the Round Table are the best is less important than the basic idea. But if these proposals are based (as the discussion seems to suggest) on the idea that we can rely on the "trickle down" theory to meet all or most of our low-income housing needs, I cannot agree with them. As long as the over-all housing shortage continues, the application of seemingly painless financing to the old house market will inflate prices and work strongly against the purpose of taking care of a low-income family by letting them move into the dwellings vacated by the purchases of more expensive new housing. However, if normal supply and demand factors can come into play, so that the price of the old house will be properly marked down, the desired effect will begin.

All this will not solve the whole problem by any means, but it could become one of the factors in privately serving a broader market.

In this letter I can only indicate that many of the topics touched upon in the Round Table are encouraging; some discouraging, and my silence about them now does not indicate either assent or dissent.

Probably it was not intended, but it would be easy to get from the report the idea that if the various proposals advanced were adopted, it would enable the industry to forget the task of finding ways to produce more generally a good, adequate house for a low price. This is the challenge to the whole housing field, and I know many thoughtful builders do not think it can be abandoned because that it is impossible to achieve. Certainly I do not. I have continued, constructive discussion.

RAYMOND M. FOLEY, *administrator H&H*

We believe it is important news that Mr. Foley should include such an interest in developing an amended type of Government guarantee to finance the rehabilitation of old houses.

H&H was interested to learn that FHA does allow 95% insured on 3-bedroom houses up to \$8,000. Not one of the 30 odd members of the Round Table was aware of that fact!

The Round Table's point: the cost of slum rehabilitation should be borne by the owners. The plea for help in financing was of secondary importance.—ED.

## "... More houses, not more slums. . ."

Sirs:

For leaders in the private housing business to take a look at the low-cost housing problem, as they have done in HOUSE & HOME's Round Table, is a good thing. It will be better, however, if when they looked at the housing picture, they wouldn't turn it upside down.

That is the reaction I get after reading some of the proposed answers they suggest for the low-cost problem as they see it.

Their call to do more in rehabilitating, improving, maintaining sound old and existing housing is all to good, as far as it goes. But that is an assist, not an answer. After years of hearings and study drawn from all sources in the housing and finance field, one fact still remains: the big problem is a shortage of housing, and the only way to meet that is by a high level of new construction. And the only way to support such a level is to build homes for the mass of people can pay for.

With government help the industry has greatly expanded its production into the moderate-priced field that largely accounts for their present record volume of homebuilding. But even then, they have not yet



hed much of the lower-middle income market where  
rge part of our most urgent future demand lies.

et these industry leaders conclude that the way to go  
r is to go higher, that up is the direction of down.  
y want the government to stop favoring the lower-cost  
e and help them to build more expensive houses as an  
ver to the lower-cost market.

ey seem to sense the contradiction of this approach,  
they offer an explanation of how this system of reverse  
omics will do the job. Their explanation is the old,  
worn "filter down" theory, under which you build an  
nsive house and by chain reaction, a series of vacan-  
is created that will reach down and house a low-  
me family in a ninth- or tenth-hand house. That theory  
been expounded as long as I can remember, and every-  
it has been completely discredited.

hat it means is that we will house the poor by building  
the rich. We will house the many by building for the  
few. We will produce housing for the large masses in the  
middle- and lower-income field by building only for the  
small, select market at the top of the income pyramid. The  
casualty of such a policy would be the booming home-  
building industry itself, for at present rates of production  
could soon saturate the upper-level market.

we don't have to try the "filter-down" principle to  
see how it would work. That is precisely the way we  
operated until the last 20 years or so, when we found that  
it didn't work. The large number of slums and the slum  
conditions that the Round Table group deplors, as do I,  
are a good part the result of this "filtering" process. Not  
enough housing was produced to filter down, in the first  
place, and so our slums are terribly overcrowded. And  
housing as finally did filter down to the price level  
of lower- and moderate-income families was so worn out  
and obsolete, after paying for itself several times over,  
it was scarcely fit to live in. What we need are answers  
that will produce more houses, not more slums.

It does not mean to disparage the earnestness of these panel  
members, nor the real value of such a discussion, in which  
panel members have recognized not only the problems but  
at least some sound answers. I hope they will continue  
to be concerned with the low-cost housing problem, but in  
the future discussion I hope they will turn the housing picture  
the other side up when they study it.

SEN. JOHN SPARKMAN  
D. Alabama

## GI and the existing home

I was keenly interested in the exchange of ideas arising  
from your Round Table on low-cost housing. We agree  
that existing homes, whether "as is" or renovated, must  
play an important role in satisfying the nation's housing  
needs, including the needs of World War II and Korean  
veterans. As a matter of fact, nearly half of the three mil-  
lion GI home loans guaranteed so far have been used by  
veterans to finance the purchase of previously occupied  
houses, although in the past several years with new con-  
ditions at a peak the proportion of GI loans for existing  
houses has been closer to one-third. In this connection it is  
significant that our GI loan statute does not distinguish  
between used houses and new houses. A used house—or  
improvements on a used house—can be financed on the  
same liberal terms as a new house. Also, VA regulations

and procedures are designed to facilitate increases in the  
amount of the GI mortgage on existing homes for subse-  
quent improvements and alterations. For improvement or  
alteration loans below \$8,000 in cost, VA's credit-control  
regulations require only that the veteran pay closing costs  
in cash. Also, the maximum maturity is the same as for  
all home loans: 25 years where the cost is less than \$12,000.

T. B. KING  
VA Loan Guaranty Service

## "... Attractive credit and interest terms ..."

Sirs:

1. The Round Table's conclusion "This country's need for  
better housing is far too great to meet through new con-  
struction alone" is supported by the great weight of pres-  
ent-day expert thinking.

2. "We can provide good low-cost housing in most com-  
munities at lot more quickly and a lot more economically  
by modernizing old dwelling units. . . ."

While FHA Title I has been most helpful in this regard,  
it is entirely possible that more attractive credit and in-  
terest terms are indicated. I believe, however, there should  
be proper safeguards against sending good money after  
bad and prolonging the inevitable in neighborhoods where  
the buildings are past repair.

3. "We are not likely to eliminate slums until we take the  
profits out of slum ownership. . . ."

Very true. Many cities have overcome the slum problem  
by requiring strict compliance with applicable local codes.

4. "Rent control should be stopped at once. . . ."

There is no economic justification for rent control ex-  
cept in critical defense areas.

5. "We believe pressure to force new home prices down  
under \$7,000 a mistake."

Admittedly this policy raises a serious question in the  
minds of many as to the administration's real motive, espe-  
cially since it cannot of itself attain the avowed goal.

The argument presented by the panel against the pat-  
tern of mortgage loans is compelling and like them, I am  
unalterably opposed to "changing the concept of FHA  
from an economically sound insuring agency to a pressure  
instrument for the welfare state." I do believe, however,  
that the utmost care should be exercised in the relaxation  
of credit controls to guard against stimulating an infla-  
tionary upsurge.

6. "FHA should help by making its appraisers give more  
credit for better quality."

Unquestionably, of prime importance, I was unaware  
that FHA was having difficulty attracting and holding  
first-class chief architects and appraisers due to the inade-  
quacy of salaries offered.

If this condition can be laid at the door of Congress be-  
cause of a cut in the FHA operating budget, then I concur  
in the panel's criticism that it is "penny-wise and pound-  
foolish" and that the cut should be restored.

I subscribe completely to the opinion that one of the  
biggest single obstacles to getting the price of a good new  
house down is the multiplicity and diversity of local build-  
ing codes. I believe the federal government should take  
the lead toward correcting this situation, exerting influ-  
ence through the housing and home agency to bring about  
adoption of standard codes at the local level.

REP. JESSE WOLCOTT  
R. Michigan

## NEWSMEN were almost unanimous in their endorsement of Round Table proposals

Sirs:

Your Round Table report is an almost perfect example, I think, of how effective economic common sense can be when it is applied conscientiously to a major, complex problem which concerns the life of almost every family in America. Giving everyone concerned with housing full credit for good intentions—which undoubtedly is not deserved in many instances—the fact remains that sound information and good understanding of the essential economic background are equally important.

You have done the best job of providing this information and understanding that I've seen anywhere and your report should be a real help not only to the businessmen, the professional men, and the government officials who have to do with housing, but also to the rest of us who cannot help but be concerned about it.

BERNARD KILGORE, *president*  
*The Wall Street Journal*

Sirs:

You are right in many respects. Arthur W. Binns, realtor of this city, has taken rundown properties in slum areas—colored slums—and by renovation and modernization made them profitable renting projects.

GEORGE KEARY, *real estate editor*  
*Philadelphia Daily News*

## No soapbox for cracker boxes

Sirs:

The H&H Round Table plan for improving the housing situation is the first all-around, plausible and "non-soap-boxy" summary of the situation it has been my pleasure to read. From here the ideas and most of the consensus seem logical. There might be argument on one point—that possibly too much emphasis has been placed on removing pressure from the builder to construct a \$7,000 house.

However, in this area we have many veterans forced to purchase low-cost "cracker boxes" under their GI mortgage assistance. They often would prefer an older home with its larger living space and greater air of respectability, a place to entertain friends and raise a family. But neither GI nor FHA provides a solution to his financial problems in this instance and to own a home he must purchase a "cracker box" with little livability.

Even more space possibly could have been given to the matter of bringing building codes up to date. Portland is one of the many cities in which performance of new materials and techniques does not carry weight under "topsy" building, wiring and plumbing regu-

lations, which often vary on state and city levels without apparent reason.

LAMAR NEWKIRK, *real estate editor*  
*Oregon Journal*

Sirs:

...A remarkable job, thought-provoking and significant. The recommendations of top spokesmen in the housing industry are worthy of further study.

I agree with some of the recommendations, particularly those dealing with the package mortgages, the need for better financing for remodeling work, and the need for streamlining housing costs through uniform local building codes. However, I disagree vigorously with the Round Table's contention that new housing priced at less than \$7,000 should not be encouraged.

The Round Table suggested taking existing dwellings as trade-ins for resale to lower income families, as is done by automobile distributors. This analogy is misleading when put into practice. Home owners and landlords are a curious breed. Give them easier financing for reconditioning their properties and what happens? Immediately they begin to think their rehabilitated homes are worth more than new homes and they boost their selling prices and rentals upward and out of the reach of the low income groups.

SAN WEINER, *real estate editor*  
*The Houston Post*

Sirs:

We carried an Associated Press account of the Round Table proposals in all our editions of October 6.

Since then real estate and building circles here have told us the report states exactly their often-enunciated belief, namely that the older homes should be fixed up first.

THOMAS S. HANEY, *city editor*  
*Akron Beacon Journal*

Sirs:

The Round Table's free-enterprise plan for better low-cost housing clearly is the product of expert thinking.

In Memphis, many well-integrated neighborhoods of older homes could be revitalized for generations of future use if financing such as the Round Table proposes were available.

The new home, at the going price in this fast-growing city, is not the answer for fast-growing families of only average income. The generous space, substantial construction, convenience and beauty of several sections now facing decline *would* be the answer if a way existed to finance their redevelopment on liberal terms.

ALFRED C. ANDERSSON, *real estate editor*  
*Memphis Press-Scimitar*

Sirs:

I find myself in complete agreement with this program for better low-cost housing. I know that there is growing acceptance of the common sense and should-be-obvious truth that good low-cost housing in many communities can be provided a lot more quickly by modernizing old dwelling units.

ERNEST A. BAUMGARTNER  
*Home section editor*  
*The Detroit News*

Sirs:

...Represents the constructive thinking urgently needed to solve this nation's scarcity of low-cost housing.

The boys talked cold turkey and I'm proud of 'em. Their ideas and suggestions will believe, work well here in Indianapolis. Financing low-cost housing is one of our biggest headaches.

Indianapolis has about 33,000 substandard homes—about one out of every four. Most of these could be remodeled quickly and economically and made into decent living quarters. But, unfortunately, slum property ownership is still quite profitable here.

A new housing ordinance, based on American Public Health Association, is now being prepared for adoption by the Common Council. It'll be a hot potato because it will curtail the building commissioner power to compel landlords to keep their property up to standards.

If there was one phase of this low-cost housing problem the experts overlooked, I'd say it was *new methods*. That to me looks like the big frontier in homebuilding. It has not been touched—except perhaps by tilt-up construction. The old ways of building homes are becoming prohibitive because they cost too much. We'll just have to find new methods and I think we will.

DONALD TEVERBAK  
*Real estate editor*  
*The Indianapolis Times*

"... America's greatest asset ..."  
Sirs:

... A perfect illustration of modern American businessmen thinking at their best.

I have looked at so many new homes being prayed that somebody with influence would challenge the cheap houses being built to day.

I haven't seen a house built in the last ten to seven years that is anyway near so good as one built 25 years ago, provided \$1,000 could be spent on the older home.

Nobody interested in America's greatest asset, her houses, can disagree with the position that the government and the building industry should work together to put more emphasis on long-range value, design and livability instead of less on price alone.

Your Round Table's mature and humane attitude on slum clearance is inspiring, and its finding that no nation is rich enough



ect well-built housing and then tear it  
n to make way for new dwellings of per-  
s inferior size and construction should be  
ght to the attention of every city planning  
housing official in America.

men 1,000 times to your suggestion that  
control should be stopped at once. No  
ness group in the history of the world has  
received such sadistic treatment as that  
ed upon the American landlord. True,  
ody wants to pay any more rent—but why  
ld the landlord be singled out when his  
s and taxes are rising like those of all  
r businessmen?

he wisdom of the Round Table's members  
roved by their praise of FHA as an out-  
ding example of sound collaboration be-  
en government and business.

he American home hunter should be grate-  
for the unique recommendation that FHA  
uld encourage the sale of houses fully  
ipped under the package plan. Here is  
neer thinking—and all for the buyer's  
eft.

f course, the suggestion is likely to run  
o some difficulty with the merchant-and-  
company lobbies. The suggestion most  
ly would meet a lot of opposition in the  
Philadelphia area where many homebuilders  
nce their new houses through FHA. They  
o control the short-term credit houses  
ough which the home buyer finances his  
y equipment.

DEAN R. MCCOLLOUGH, *editor*  
*Philadelphia Daily News*

s:  
Of the many surveys, committee findings  
I individual pronouncements by spokesmen  
various segments of the housebuilding in-  
try, none has seemed more profound than  
r own.

JOHN W. KEMPSON, *real estate editor*  
*Newark News*

s:  
Congratulations on the success of the con-  
ference, and upon this very informative and  
prehensive presentation of the far-reach-  
plan which developed from it.

KENNETH W. PAYNE, *executive editor*  
*The Reader's Digest*

s:  
ince public housing developments provide  
homes for only a small segment of the  
n population, and since urban redevelop-  
at in most cases displaces tenement dwell-  
to build for middle income tenants, reha-  
bilitation of old dwellings is required.

But the sad fact remains that slum owner-  
is highly profitable; safety and sanitary  
s have a tendency to bog down somewhere  
the line before they are enforced, and  
few owners who do attempt to rehabilitate  
properties find that money to remodel  
n is hard to borrow.

Landlords who do repair their tenements  
should be given some sort of guarantee that  
tenants who mistreat the properties will be  
forced to pay damages.

Your program is ideal for St. Louis—I only  
hope it won't remain too long in the field of  
ideals.

NELL HURLEY GROSS, *real estate editor*  
*St. Louis Globe-Democrat*

## ARCHITECTS agree that builder and architect must function together

Sirs:

Every architect interested in his profession  
must be glad of your work for better low-cost  
housing. The crippling effect of unreasonable  
rules is perhaps the most wasteful road block  
to a rational, good-value, low-cost house. Local  
codes cost every builder a large share of his  
total expenditures.

Although the FHA has done an invaluable  
service, many of its rules are blindly against  
innovations, open planning, centralized utility  
cores, and spatial freedoms necessary to make  
a small house both low cost and an adequate  
frame for living.

The antiquity of standard parts for build-  
ing is a source of great wonder, especially in  
plumbing. When did Fuller's unit bathroom  
first appear? And what could be more an-  
achronistic than the standard water closet in  
the 5 x 7 bath? The cost of the various utili-  
ties (such as cooking units) has made many  
clients of relatively expensive houses balance  
the scale in favor of more space and less  
"labor saving." When will these individual-  
ized, porcelain-enamel-boxed beauties be com-  
bined in a modest package which can work  
quietly in a simple environment? I think the  
standardization of building parts should be on  
the basis of small and easily workable units  
with maximum flexibility. When you establish  
a standard of 8' ceiling heights, you eliminate  
spatial play vertically (so important in a  
small unit).

But it is in site planning where builder's  
houses today fail most miserably. No individ-  
ual can ever be happy in his home when it is  
repeated every 60' for seven miles. It is a  
question of the need for human scale. This  
can easily be achieved by existing natural  
barriers, i.e. hills, trees, rocks, hedgerows  
even, if they are not swept away before the  
bulldozer. The need for individuality is great,  
and this cannot be achieved by varying the  
roofline or shifting the door or the carport.  
It can, in fact, be very well achieved with the  
same house, set in different relationships to  
its surroundings.

Your proposal for rehabilitation of old  
houses is economically sound and psychologi-  
cally important, to provide historical continu-  
ity and preserve vital ties.

HENRY HEBBELN, *architect*  
*New York, N. Y.*

Sirs:

At a local meeting similar to your Round  
Table I made an effort to see how many build-  
ers were building a better-than-average house,  
or attempting other than the normal grid-site  
plan. I found not a single architect-designed  
house or site plan of merit. Is all of our time  
spent in "phony peace talks," or are the build-  
ers, architects, engineers, bankers, etc., ready  
to work together for a better product? I be-  
lieve it is possible even *with* the restrictive  
measures imposed to produce a low-cost house.

The waste in most small structures today is  
appalling, not in materials alone, but also in  
labor. Most of this I attribute to insufficient  
time being spent with each subtrade. The  
problem may be worked out with the various  
subcontractors, but by the time the solution  
passes through the chain of command to the  
field boss the thought is twisted and lost. The  
line between the architect's office and field-  
work must be unbroken to solve problems at  
the proper cost.

It is difficult for most builders to under-  
stand why an architect should be interested  
in any site problem other than the width and  
depth of the lots involved. If the proper ap-  
proach to the site-plan problem were at-  
tempted by more builder-architect teams, I  
believe the antiquated zoning laws and grid-  
site plans would soon begin to disappear.

As to the preparation of drawings, I have  
always felt that the architect should not ex-  
pect a profit, but derive all profit from royalty  
obtained each time the house is repeated.  
Planning is the most inexpensive phase of the  
entire job—when prorated against the over-  
all project. The money and time saved in the  
field pays twofold for the effort expended.

Your comment on rehabilitation is a good  
one. The complexity of the problem however  
leads me to believe that the line of least re-  
sistance will lead few builders into the field.

EDWARD H. FICKETT, *AIA*  
*Los Angeles, Calif.*

## "our leaders looked to the past"

Sirs:

I agree with practically everything the  
Round Table said.

Architects are playing far too small a part  
in housing the nation. Most architects, with  
their present outlook, are ill-equipped to work  
with volume builders. Many who *are* well  
equipped think so poorly of the opportunity  
that they avoid it.

The homebuilding industry has risen  
quickly; a few architects have come along  
with it. As in the development of any industry,  
many who have were burned. But the prize is  
great, and the field is the most essential part  
of the building industry. We on the AIA Com-  
mittee on the Home Building Industry hope

to spread information to our profession so that more of those who are able will take part. Our profession must assume its obligations for its own good, for the good of the industry and for the good of the country.

The idea of refurbishing existing houses is good common sense, but we must not forget low-cost new houses. Savings should not be through reduction in size alone.

We all know that structure and envelope have been explored very little. We also know that integrated instead of haphazardly separate utilities could reduce these basic costs considerably. Why put the machinery for refrigerator, range, washer, dryer, furnace, air conditioner and whatever, each inside a separate and expensive enameled cover? Why not have an engine room for these, out of sight, yet accessible?

The wider adoption of the package mortgage, allowing the building of "complete" houses would reduce the over-all total cost of integrated and equipped houses. Then, as you say, monthly payments could be still lower.

If we think that such goals are far in the future, it is only because they are stifled by building codes, FHA, and the manufacturers themselves. I fully agree with your views regarding these factors in our industry. Sometimes, I think our leaders have looked at the past so long through eyes in the back of their heads, that they have forgotten how to use eyes that look forward.

L. MORGAN YOST, *FAIA, chairman.*  
*Committee on the Home Building Industry*  
*The American Institute of Architects*

Sirs:

I go along with the Round Table almost all the way but I cannot share your enthusiasm for remodeling. My experience with HOLC conversion jobs during the war was discouraging. The increased housing hardly justified material and labor costs.

VAN EVERA BAILY, *AIA*  
*Oswego, Ore.*

## Unreasonable standards

Sirs:

To work within the financial envelope imposed by FHA seems impossible in view of their so-called standards, in most cases, unreasonable. They are not cognizant of climate differentials across the country, which must and do affect housing requirements.

Houses, like any other manufactured item today, will eventually have to be subassembled mechanically if the mass market is to be satisfied. It is impossible to put a nationwide price on a house of a given size for all climes in the US. This sort of thinking is what is wrong with all the housing agencies.

I suggest, in the case of FHA, instead of more money for more bureaucratic conservatism, a complete rehabilitation, from the top down. Most people in the upper-bracket positions in these agencies have been there so long their interest seems to be the maintenance of their civil-service status rather than the

work involved in solving any problems not stated 15 years ago at the instigation of the "make work program."

Your statement "Not enough architects understand the hard economics of small houses and volume building" is perhaps true. Neither do enough builders. Architects, because of training and educational background, should be able to understand and help solve these problems much more satisfactorily than the run-of-the-mill homebuilder. Perhaps we had all better rise to the occasion.

RICHARD S. COLLEY, *architect*  
*Corpus Christi, Tex.*



"... like squeezing a lemon. . ."

Sirs:

Squeezing a house too much is like squeezing a lemon. Pretty soon all you have left is the rind and perhaps a squirt in the eye.

The FHA has done much to improve the quality of the low-cost house but the pressure put on small builders to produce a house for less than \$7,000 cuts the quality and the space below an even sensible minimum. Let's have encouragement of reasonable space for reasonable cost and be done with arbitrary maximums and minimums that however equitable in one part of the country, are completely unfair in another.

Rehabilitation of older houses is a must in any event.

ROYAL BARRY WILLS, *AIA*  
*Boston, Mass.*

Sirs:

The pressure applied by FHA to encourage construction of \$7,000 houses is unwise in our present economy. The house is being whittled down to nothing. First the extra bath, then the third bedroom, two ft. off the living room, eliminating the attic and the basement, a window here, another there, until someday there will be no house. An extra \$1,000, especially in minimum builder houses, can make tremendous differences in space and equipment. Insured loans should be increased to preserve the amenities. Only the rich can afford a poor bargain or a house too cheaply built. Sadly enough, those who can least survive the penalty are saddled with houses too small, poorly equipped, and soon destined for obsolescence.

That low-cost housing can be eased by remodeling older houses is good in theory.

The trend to turn old houses into apartments must be watched and controlled so that approximate density of dwelling units per acre can be maintained. This kind of modeling immediately starts a general degradation of the community. Remodeling practical and a fair financial risk only if the house to be remodeled is in a healthy neighborhood.

There is a basic shortcoming in the housing industry: dollar for dollar, one gets less than he pays for. At least for his money in purchasing a house because the house is still a handcraft product. We must experiment more freely and invest in nonprofit prototype design to make substantial progress without compromise with the semimodern or quasi-industrial house. Unless we can meet this challenge social housing must replace free enterprise.

GEORGE MATSUMOTO  
*Assoc. professor of architecture*  
*North Carolina State College*

Sirs:

## The too cheap house

Present government policies are creating new slums by the emphasis on the "cheap house." Architects and builders who do the best will in the world cannot provide adequate facilities for \$7,000 in most areas. When such projects are built, they must use cheap materials to get first costs down. They either deteriorate rapidly or require high maintenance costs. The owner would be better off paying \$6.47 or \$12.92 more a month for higher quality construction.

## The two-bedroom house

The two-bedroom house is extremely, wasteful economically and socially. An adequate space standard for an American family with two or three children is three bedrooms plus an all-purpose or television room. This is not as apparent when the children are small (although the all-purpose room is a wonderful playroom for tots). Its principal benefit comes when the children get into their teens and need room for entertaining their friends without making the parents retreat to their bedroom for privacy. (Remember old parlor and sitting room.)

## Rooms are too small

In some areas an adequate house of reasonably good quality can be built for \$8 per sq. ft. If this house has 1,000 sq. ft. in approximately 200 sq. ft. can be added for \$2.50 a sq. ft., or \$500 (assuming no more doors or windows, etc.—just space). A 1,000 sq. ft. house would cost \$8,000, plus \$2,000 for a lot, plus \$1,000 for miscellaneous fees and overhead, plus \$1,000 for profit, of which makes a house sell for \$12,000. This adding 20% more space costs only 4% more in total or the buyer pays only \$3.24 a month for 200 additional square feet, or .016¢ per additional sq. ft. per month! (Compare this with office building monthly rentals.)

Except in exceptional instances, it is more economic to repair existing houses because



umbing and kitchen equipment are too  
tly to put in an old shell which represents  
ly about 27% of the total cost of the house.

S. ROBERT ANSHEN, AIA  
San Francisco, Calif.

### ... rich human relationships ..."

I have long advocated *remodeling* rather  
an *destroying* existing neighborhoods. In  
any cases there are rich human relation-  
ships built up during the years which it would  
be a shame to destroy. These existing values  
are inspiring to a sensitive designer.

The problem must be looked at as a whole.  
Density must be made to the correct ratio,  
traffic patterns altered, open space and play  
areas added. It is not enough *just* to re-  
model buildings.

When one thinks of the great investment in  
utilities in existing communities, one cannot  
afford not to first look there for housing.

Anything that can help stop the ugly and  
sterile subdivision practices that ruin the out-  
skirts of our cities has my hearty approval.

DAN KILEY, AIA  
Charlotte, Vt.

Until major steps are taken to build a house  
better, the only way a better product can be  
delivered to the owner is by retaining propor-  
tionately low down payments for \$10,000 to  
\$15,000 as is now possible for the \$7,000 house.

The matter of delivered product against  
cost is becoming more and more serious due  
to land costs. This is not only serious in what  
it does to the house cost, but is fostering the  
"small lot" type of development.

We have just designed houses for a builder  
in an area where the same house came under  
three different building codes. Due to the va-  
rious requirements of these three codes, the  
builder's cost on a \$15,000 house varied be-  
tween \$300 and \$500. Obviously ridiculous  
when you can stand at one house and practi-  
cally see the other houses. All were approved  
by FHA and VA, even though the building  
department required different ways to build  
the same house.

A. QUINCY JONES, JR., architect  
Los Angeles, Calif.

It is a mistake to categorize housing and  
needs for housing into types—"luxury," "low  
rent," "subsidized," "public," "private enter-  
prise." Some may condemn a public housing  
project, solely because they think government  
shouldn't build or subsidize. The same people  
may approve a speculative development, over-  
looking or apologizing for the fact that it is  
comprised of bad building, badly disposed,

badly located, because it is privately sponsored  
and low in cost. We feel that all buildings, old  
and new, utilities and landscaping are a na-  
tional asset; if we spend \$x million this year  
on housing to reduce our shortage of units, we  
should be able to feel that we have made not  
merely a costly, temporary improvement but  
that we have improved our national assets.  
We should be able to feel that our money has  
been used efficiently and prudently, not be-  
cause we are timid about the venture but be-  
cause the resources available to the venture  
seem always to be inadequate to the task.

WILLIAM KECK, architect  
Chicago, Ill.

### "We have examples, we have the means, we lack only the will"

Sirs:

The Round Table is not a real plan but a  
plea for more subsidy to the "free enterprise"  
builder, and less to the consumer. Its tone is  
timid and shows a lack of faith in the potential  
of a properly organized and directed building  
industry.

Paradoxically, it states that the building in-  
dustry can't take care of the total demands  
through new construction—because it never  
has—and then states that a new market for  
new construction and old must be opened up  
to avoid saturation.

If we haven't the organizational ability and  
the means of co-ordinating public and private  
interest to the extent of assuring a reasonable  
framework for salvaging the good in our cities  
without compounding the bad, let them rot.  
Let's not pour good money after bad.

In order to get better new houses at lower  
cost, isn't it clear that first comes good basic  
land-use planning, then rationalized zoning,  
intelligent up-to-date building code require-  
ments and labor practice? Mortgage insur-  
ance should be based on these factors as  
prerequisites. With a sound foundation to  
build on, *increased volume* can bring our  
costs down quickly enough.

Cannot H&H call on both presidential  
candidates to convoke a committee immedi-  
ately after election to carry the Round Table  
discussions further, and within a more basic  
framework? Membership should be based on  
the supposition that a mature housing pro-  
gram can be brought into being through  
effective co-operation between the various  
components of both industry and government.  
We have got to have planning on a national,  
state and local level, which comes somewhere  
near approximating what has been taken as  
a matter of course for years in such countries  
as Sweden. We have examples, we have the  
means, we lack only the will.

CARL KOCH, AIA  
Cambridge, Mass.

### HOUSING EXPERTS give hard facts and make penetrating charges

Sirs:

1. Your proposal represents the view  
neither of the whole homebuilding industry  
nor of all the people with a stake in it. Notably  
absent are citizens' groups, consumer inter-  
ests, labor, and government.

2. Salvaging old housing is desirable and  
you are to be lauded for bringing the matter  
up. Slum demolition will have to be curtailed  
because of the growing housing shortage for  
lower-income groups. A program to improve  
old housing is therefore vital.

3. Old housing and new housing cannot be  
separated. All housing new today will be old  
tomorrow. The pool of old housing exists and  
functions because it is better than the one- and  
two-bedroom economy units now ulcerating  
the landscape. Unless new housing is satis-  
factory and continues entering the market,  
America's old housing pool will be rapidly  
depleted.

4. Your plan lays too much emphasis on  
the \$7,000 house and too little on the monthly  
carrying charges that are the main determi-  
nant in shelter costs. An interest reduction to  
the level warranted by the government guar-  
antee would permit a better house at the same  
monthly cost as a \$7,000 unit, though the  
capital cost might be greater.

5. Any program involving old housing can-  
not overlook the important problem of racial  
movements. The nonwhite population has  
more than doubled in 30 standard metropol-  
itan areas in the Northwest, North Central and  
West. Neither the private nor the public build-  
ing industry has attended to minority needs.  
These minorities (Negroes, Mexicans and  
Puerto Ricans) have therefore overcrowded  
into old dwellings; cubbyholes have been  
cut out of apartments; obsolete housing has  
been mustered into use and given a long lease  
on life, while ransom prices are being paid for  
dwellings into which the minorities are being  
herded like sheep. The amount of substandard  
housing lived in by nonwhites, for example, is  
more than six times as great as for whites, and  
the overcrowding more than four times as  
great. Unless decent housing is provided by  
public and private enterprise for these mi-  
nority groups at costs they can afford, old  
housing will not be improved, for a landlord  
who can charge \$60 per room monthly in  
Puerto Rican Harlem or twice the white  
market rental in Miami need pay little atten-  
tion to improving old housing. Without a plan  
for solving the minority shelter problem, your  
program will bog down.

6. Housing history shows that little old  
housing can be substantially rehabilitated  
during a housing shortage.

7. Until the private builder demonstrates

his ability to reach all income groups with his product, the public housing program should be expanded. It must concentrate on vacant land as must the urban redevelopment program.

The FHA program is socialization of the mortgage insurance business, while the 115% mortgage is the socialization of risk. It makes no sense to have socialism for the rich and private enterprise for the poor. I do believe, however, that we can limit the amount of socialism, make it temporary, harness it in the public interest, and ultimately desocialize housing. I think, for example, the housing authorities can legitimately build more housing for low- and middle-income groups if the housing is thereafter sold to private owners. When the shortage eases for all groups, the authorities can then shut up shop.

CHARLES ABRAMS, attorney  
New York, N. Y.

Sirs:

Your Round Table is the first we have heard of any concerted move, other than our own (Self-Help Housing, Inc., chartered last year under Massachusetts law as a nonprofit corporation) and that of a group in Philadelphia, to give attention to this problem. Steering between the extremes of "public" and "private" housing, we are seeking to develop successful residential neighborhood renewal. Self-help teamwork of neighbors with skilled professional guidance may be one way. We are interested only in ways that will encourage freedom of enterprise and individual self-reliance while also improving residential structures, improving neighborhoods and stabilizing, perhaps even increasing, municipal tax income from real estate. We intend that each practical neighborhood effort we foster shall become self-maintaining.

JOHN T. BLACKWELL  
Executive secretary  
Self Help Housing, Inc.

**BUILDERS accept the challenge—offer challenges of their own**

Sirs:

Rent control should be stopped at once. It causes the sad neglect of a large percentage of the rented property in this country. Owners of nonprofitable rented property cannot be expected to spend money on such housing. If the owner received profitable rent, he would be able to maintain and improve the property from the rent income.

I think it might be rather dangerous for FHA to make loans 95% of full value for remodeling and modernization. However, 95% of the actual cost of the repairs and improvements should be a safe loan.

WALTER S. JOHNSON  
Walter S. Johnson Building Co., Inc.  
Niagara Falls, N. Y.

Sirs:

Hallelujah! Welcome aboard the good ship *Free Enterprise*. Your article is jam-packed with common sense—an excellent exposition of what can be accomplished by the building industry.

Of course, the plan will be scoffed at by the public housers as the "hand-me-down" system. They seem to prefer the "hand-me" system—nothing down—now or ever.

EDWARD R. CARR  
Past president NAHB

**Ten-year houses at half the cost**

Sirs:

I find it hard to criticize FHA policies without acknowledging that they are a great contribution to better housing. I think that FHA underestimates the very high percentage of value per dollar added to a house by the amount between \$7,000 and \$9,000 or \$10,000. That is where you get the most for your money in housing.

We have found that FHA considerably restricts the ingenuity of the builder by being in some cases too conventional in its specifications and design concepts.

I am going right on building permanent and durable houses that will be perfectly sound 50 years from now. But some day we are going to realize that in much less than 50 years these perfectly sound houses will be ridiculously antiquated. When are we going to learn to build ten-year houses at half the cost so that we can have a new one just as we can have a new car? With present concepts of the buying public, building codes, and the housing and lending institutions, it would be absurd to attempt to build such a house. But we have to do it some time and I think the manufacturing industry ought to start thinking about it.

I am not in full agreement with your findings in regard to space although it is true indeed that the size of some \$7,000 houses is ridiculous, cruel and unwise.

But while the too small house is a physical burden, the too large house is going to be more and more a financial burden, not only from the standpoint of carrying costs but maintenance, heating, air conditioning and housekeeping costs in this servantless age. We are finding so many ways to put more house under the same roof.

Air conditioning is inevitable and the smaller the cubic content of the house the more air conditioning is within reach. Certainly the \$7,000 house is an economic and social mistake. But let's not go overboard on merely increasing size. Increase livability and functional space.

RICHARD HAIL BROWN  
B-D Development Co.  
Birmingham, Ala.

Sirs:

Substandard housing in the South can easily be remodeled to help alleviate the housing shortage in low cost brackets. A new FHA plan will be required to enable a buyer to finance these reconditioned houses. A smaller down payment is necessary. The plan will allow a builder to accept houses in trade.

MARVIN HENRY  
Marvin Henry Builders, Inc.  
Houston, Tex.

Sirs:

The problem of public housing will never be solved by local referendum or by public controls (laws) to prevent it on the local level, the state level, or the national level. These are not cures, just sedatives. The problem must and should be solved by private enterprise on a profit basis. "Operation-Trade Secrets" will help. We must harness our resources of every description: planning, financing, architecture, engineering, fabrication, construction, etc., to the end that we produce a better and better house at a lower and lower cost in the field of need. Everyone is entitled to good, clean, habitable dwelling places. We homebuilders must supply the great human need on a profit basis. It can be done, it must be done, or we must forego "hold our peace." When a great human need presents itself, it is a function and obligation of government to encourage private enterprise to fill that need; hence, the FHA and VA.

ERNEST C. JANSON, president  
Ernest C. Janson, Builder, Inc.  
Springfield, Ohio

**Private enterprise for less than half**

Sirs:

If this story could be carried successfully to the public, there is no question but that the present housing program would have a short life indeed.

A revealing sidelight on this question: the Miami Housing Authority plans to build 1,000 housing units in this area. Two local builders have offered to build them at less than half the Housing Authority's estimated cost. Secretary of Commerce Charles Sawyer said not long ago, "The way to cut down on government spending is for private industry to show it can do the job for less." It will be interesting to follow the developments of this offer.

EMIL J. GOULD, housing engineer  
Miami, Fla.

Sirs:

One of our dealers in a large metropolitan area gave us a full report on a recent "open house" which he held. For several years the sales curve has shown an increasing demand for three-bedroom houses. Yet our dealer said that his sales were largely of two-bedroom houses. Most of the younger people want



one-bedroom houses but just did not have the necessary down payment, whereas couples who had reached the age of retirement and whose families had grown up, married and left were interested in getting out of larger houses and into two-bedroom homes.

HART ANDERSON, *vice president*  
*Page & Hill Homes*

praise and congratulations! How about the merits of these factual exposés?

ROBERT E. OTT, *general manager*  
*Harnischfeger Corp., Houses Division*

The Home Builders Association of Metropolitan Washington congratulates H&H and expresses every one of the views outlined in your plan. We believe that through a program of this kind we have found the principal answer to public housing. Your plan will be circulated among our members, and you can count on this association doing everything possible to sell this idea to the Home Building Industry in the Washington area.

JAMES W. PEARSON, *executive director*  
*Home Builders Assn.*

We use aluminum exteriors, aluminum windows, cement slab, no maintenance or upkeep: \$7,000 including lot.

C. L. BARTEL, *realtor, builder*  
*The Bar-Tel Co.*  
*Muncie, Ind.*

In the last two months we have had many requests for small compact homes, about 70% of them with two bedrooms, and all to be on one floor. People are willing to invest \$12,000 to \$12,500 and are putting their older houses on the market. We should modernize these dwellings for the younger generation who are raising families. Their problem is that they need more living and bedroom space than can be furnished in new low-cost houses.

HAROLD L. LARSEN  
*Builder & contractor*  
*Seattle, Wash.*

## FINANCIERS comment on low-cost housing in a high-cost era

The tragic consequences of any short-sighted housing policy of expediency which produces large numbers of poorly planned houses of inferior quality to satisfy a current housing demand will inevitably be more homes instead of fewer.

We must be realistic. The purchasing power of the dollar is down. The homebuyer must expect to pay as much relatively for good housing as for other sound products. Good housing means well-planned,

soundly built structures that have a long and useful life expectancy. Anything less than good housing becomes a snare and a delusion which leaves its owners embittered and suspicious of the whole idea of homeownership.

Available materials and construction facilities should be concentrated in the production of the much needed medium-priced house for the average family. Here is the builders' opportunity for tomorrow and the best way to minimize public housing construction.

Rehabilitation of existing economically and structurally sound dwellings can solve several problems, including slum prevention and clearance, transportation, excessive depreciation, loss of mercantile revenues, and even municipal bankruptcies.

There is no doubt that savings and loan associations will co-operate heartily in the basic objective of H&H's campaign for better housing. Such a program is in fact "right down our alley."

OSCAR R. KREUTZ, *executive manager*  
*National Savings & Loan League*

## "... out in the wilderness ..."

Sirs:

I think that those in our business should be financing homes with all the household gadgets installed and that we should be granting attractive-sized loans with modest monthly payments, recognizing that the house is good security for 20 years at least.

On the question of the FHA, however, I am out in the wilderness crying alone. I think it should be modified so that the rate is a realistic one which permits us to make loans freely and guarantee the borrower that when he loses his job, or is ill, or cannot pay for any number of reasons, the FHA will advance his payments at a higher rate of interest. That helps him keep his home instead of losing it, helps the lender to maintain a good mortgage instead of wasting money on foreclosure expenses, and spreads the desire for homes among those who don't like to assume purchases under which they will have to take a loss.

There is no question but what solution of the low-cost problem is on the shoulders of private enterprise.

BEN H. HAZEN, *president*  
*United States Savings & Loan League*

Sirs:

You have performed an important service. We, too, have felt for some time that the pressure to provide low-cost housing in this high-cost era can only result in the construction of large numbers of houses with inadequate living accommodations.

E. L. STANLEY  
*Asst. manager mortgage loans*  
*Provident Mutual Life Insurance Co.*

Sirs:

... A very successful meeting.

I would advocate long-term financing for new or old housing. Fifty-year 5% mortgage is not unreasonable providing, however, the mortgage paper can be cashed over the counter. This, of course, would carry rigid requirements as to architecture, construction, space, loans, etc.

JAMES G. POLK  
*James G. Polk & Co.*  
*Louisville, Ky.*

Sirs:

In my judgment, the government has been wrong on three assumptions:

First, that everyone wants to own a home. Second, that home buyers want to buy a cheap, small, five-room bungalow. Third, that public housing is the only way to provide low-cost housing.

Your report brings out very clearly that there is much value left in the millions of older properties which could be reconditioned on a low-cost basis.

FHA assistance in rehabilitating older properties, plus the enforcement of health and fire ordinances, would go a long way to curing our slum problem.

H. F. WHITTLE, *president*  
*H. F. Whittle, Investment Co.*  
*Los Angeles, Calif.*

Sirs:

There is no question in my mind but that the homebuilding and home-financing industries have got to concentrate on this problem if we are to retain the freedom from governmental restraint which is the keystone of our industry.

SAMUEL E. NEEL, *counsel*  
*Mortgage Bankers Assn. of America.*

Sirs:

... Logical and sound.

Much of the demand for houses with more than two bedrooms might be met by revising the property-improvement loan procedure to provide a lower interest rate and a longer repayment period. This would prevent further deterioration of the older sections.

DEAN RICHMOND HILL, *president*  
*Hill Mortgage Corp.*  
*Buffalo, N. Y.*

## Small homes to be expanded

Sirs:

Your leadership ... is greatly appreciated.

But a small home can be very successful if the plan is done so that it may be expanded by the owner-occupant. It must be architecturally planned and placed on a plot large enough so the house can expand without cramping the use of the ground area.

There is no reason why old houses, modernized, should not be given the same down-payment privilege as new houses. It may be



that the term could be cut to 18-20 years instead of 25 years. The only drawback to adequate housing at the present time is the down payment and the monthly payment.

We are firm believers in the rehabilitation of the older houses, which generally are located in well-established areas with all the amenities—churches, schools, etc.

DON HEDLUND  
*Carroll, Hedlund and Associates, Inc.*  
*Seattle, Washington*

Sirs:

An accelerated program for the conservation of existing housing certainly removes the potential liability of slums and conserves the basic community services in the most economical manner. Such a program is essential, particularly around slum-clearance projects.

Your encouragement of better-quality housing with a free choice by the owner as to cost is fundamental. American security is enhanced by the larger investment of its citizens in housing.

EDWARD L. JOHNSON, *vice president*  
*Bell Savings & Loan Assn.*

Sirs:

Financial institutions should take a good look at your recommendations with respect to FHA and consider local campaigns for liberalized improvement and rehabilitation loans without recourse to FHA insurance.

FHA has done a good job but there is no reason why it should do the whole job. It is time private institutions assumed their share of the burden without government subsidy.

Your Round Table is the best presentation of this American problem that I have had the pleasure of reading. You should be congratulated.

J. HOWARD EDGERTON, *president*  
*California Federal Savings*

## **FHA and its own earnings**

Sirs:

For some time I have felt Congress has been too strict on allowance of funds to FHA for its operating budget. The agency is making money and should be permitted to use a reasonable portion of its earnings to improve the operation.

AUBREY M. COSTA, *president*  
*Southern Trust & Mortgage Co.*  
*Dallas, Tex.*

Sirs:

... Definitely a step in the right direction. In most cases better materials and sounder construction methods were used in the older properties.

Most of these old homes have three or four bedrooms. In our section, many G.I.'s who bought two-bedroom homes are already looking for larger houses.

CARL F. TROUTMAN, *manager*  
*United States Savings & Loan League*

Sirs:

... Constructive ... impressive reading. ...

Surely pressure for cheap housing—\$7,000 or less—in this economy is a fallacy. The merchandise so produced meets neither the requirements of home buyer or lender.

E. L. CARLSON  
*Second vice president, mortgages*  
*The Fidelity Mutual Life Insurance Co.*

Sirs:

I believe that the agreements reached at your Round Table with regard to lack of uniform standards in our building code, would be supported by the mortgage lenders of the nation almost without exception. The problems outlined in this report are of great concern to the savings and loan business and I feel that a co-ordinated effort, such as is suggested in this report, would be most constructive and is the proper starting point in a program of improving the living conditions of our moderate-income families.

JAMES E. BENT, *president*  
*Hartford Federal Savings & Loan Assn.*

Sirs:

... Greatly interested in your free enterprise plan. If FHA and VA would take the same interest in rehabilitation as they do in new construction, the public housing problem would be solved. And if municipalities would enforce the sanitary and health regulation as to substandard dwellings, they would secure the co-operation of all.

JAMES V. DAVIDSON, *president*  
*First Federal Savings & Loan Assn. of Toledo*

## **MANUFACTURERS, SUPPLIES and GENERAL BUSINESS MEN voice warm approval**

Sirs:

I am 100% behind the program. Federal-sponsored housing has been a failure in every department.

It is called "low-cost housing" and is the highest of any in the country.

Some federal projects are now as high as 22% vacant for lack of people who qualify for occupancy—partly, because the really needy are seldom favorably considered. Your approach is much better than a merely critical attitude toward the existing federal projects.

C. W. KISTLER, *president*  
*C. W. Kistler Co.*  
*Miami, Fla.*

Sirs:

Let us have more group gatherings of the building industry, including FHA officials, to tussle with our common problems. There is an ominous need for the meshing of the many important factors of our industry to

exchange information and make recommendations for its future.

CLARENCE A. THOMPSON, *chairman*  
*Thompson Lumber Co.*  
*Champaign, Ill.*

Sirs:

We heartily agree that increased emphasis on quality in low-cost housing is vital. Today's pressure for low-price homes is forcing builders more and more to turn to cheaper, lower quality materials. This decreases the real value of the home even faster than the price.

Low-value homes provide reduced comfort, attractiveness and convenience. They offer poorer investment to the homeowner. As their accelerated deterioration into substandard housing makes them only a one-generation contribution to our country's housing needs. In the long run, their cost is disproportionately high.

D. D. COUCH, *vice president, sales*  
*American-Standard Products*

Sirs:

An excellent job and bound to be helpful to all of us.

F. STUART FITZPATRICK, *manager*  
*Chamber of Commerce of the US*

Sirs:

... Sound and progressive ...

For the past two years I have sensed that young homemakers are reluctant to become too heavily encumbered. They recognize high costs and feel them. I have noticed their "do it yourself" attitude and their pride in acquiring fewer things but getting these without sacrificing quality. This adds up to better use of existing housing. Any additional help to these people by FHA or any other source will be really worthwhile.

WM. F. FRANKET, *president*  
*Parkay, Inc.*  
*Louisville, Ky.*

## **"... So much better than living with your in-laws ..."**

Sirs:

I asked friends of mine in the retail lumber industry all around the country if they thought we were building the right size housing in the right price range; if we were meeting our obligation to America in providing the right sort of housing to promote good citizenship, to deter juvenile delinquency, and to reduce the divorce rate.

Not many dealers go along with the theory that the small house in itself causes any increase of our social problems. As one said, "the smallest house is so much better than living with your in-laws."

Here are excerpts from their letters:

Massachusetts—The bankers here frown on the four-room cottages.



**Texas**—Of course we should build "small homes" larger but most of my prospects send all their income and save very little. It is a shame their homes have so few sq. ft. of area but how can they eat their pie and have it too?

**New York**—The fact that our houses are small and inexpensive is the only reason people are able to afford them.

**Illinois**—The trend to smaller rooms and cementless houses is making the small-family residence more of a temporary camp than a home.

To me it seems "American" that each family arrange its home ownership according to its means rather than to start out with a house complete and large enough for the possible future.

In our past history large families were housed in log cabins and turned out not only good citizens but also great leaders in the development of our country.

**New Mexico**—The houses being built today are too small but in this area the small house is being sold. People don't have the money for larger ones.

**Maryland**—A two-bedroom house is allowing many people to own their homes who would never have thought of it before.

Today every house must have a good bathroom, a good kitchen, both with modern equipment, and a good heating plant—this is no matter how small the house.

A typical family: both the man and wife work. If they have children they "farm them out" to a mother or aunt. The wife doesn't want much work to do in keeping the house. They are in the house only for their breakfast and evening meals and to sleep. Usually as soon as they have finished dinner they are out somewhere to a movie or some other recreation. They do not want too much yard to take care of.

**Montana**—The proportion of 1,000-2,000 sq. ft. houses that we design is now proportionally much more than it used to be in contrast to those with only 700 to 900 sq. ft.

**Long Island**—You cannot get more than a two-bedroom expansion-attic house for \$5,500; still with today's conveniences you get relatively more than when we or our clients were buying a house.

**West Coast**—Modern small houses are not causing delinquency any more than large- or medium-sized houses.

**Nebraska**—We saved a lot of divorces by building small houses—fast.

On the general point of design: "There is great public interest in fenestration. The buyer is willing to put a higher proportion of the total costs than ever before on picture windows—insulated glazing, sements and similar items."

"There is a perfect 'mania' for the ranch house. We have a stereotype in all price ranges which is certainly going to be dated."

\* \* \*

On two points I felt your recommendation did not follow the Round Table discussion. You say "We believe FHA needs more funds to meet its requirements and we urge Congress to restore the cuts in FHA's authorization." Many of us feel that what FHA needs is not more funds but a better use of what they have.

My second difference arises over uniform codes. I approve completely the solution you propose. However, I dislike the implication that you want towns to adopt a uniform code without choice on their part. . . .

NORMAN P. MASON  
Past president  
National Retail Lumber Dealers

### A second market for prefabricators

Sirs:

We are particularly impressed with the recommendation to the prefabrication industry that to "tap a second market . . . prefabricated house manufacturers interest themselves in those needs of the local volume builder who would not be likely to buy complete prefabricated houses."

What you refer to as "a second market" has, for the past two years, been this company's primary market. Our experience in better than doubling our annual output in 1952 over 1950 attests to the accuracy of your conclusion. By mass producing house components to the specifications of the individual builder and his architect, it is our view that fabrication integrates the practical knowledge and skill of production-minded men with the creative, imaginative, architectural mind.

We hope that by this means we may be able to help the support of your program.

W. L. MAINLAND, general manager  
Lumber Fabricators, Inc.

Sirs:

This is such an excellent presentation from several viewpoints, including present faults in FHA financing, that I think all dealers should read it for their general information. Many of them could use it to advantage in connection with rent control and public housing talk. I would like to send out 225 copies to our mailing list.

W. J. HOWARD  
Montana Lumbermens Assn.

Sirs:

. . . Laudable . . . the plan merits thorough and widespread study. . . .

Revere's Quality House Institute now part of the Southwest Research Institute has as its purpose bringing quality in design and materials to merchant building which would make low-cost housing more livable and more durable, more attractive to the home-

owner, builder and investing banker.

C. A. MACFIE  
Vice president and general sales mgr.  
Revere Copper & Brass Inc.

Sirs:

If the Construction Industry is to meet its challenge from the "New Dealers" for housing, it must get busy.

The plan outlined in your Oct. issue is timely, to the point and should be enthusiastically followed by everyone in private industry engaged in providing homes for Americans.

FRED R. STAIR, president  
Farragut Lumber Co.  
Knoxville, Tenn.

Sirs:

. . . The best thing you have so far done to focus attention on the need for quality in today's housing.

CHARLES M. MORTENSEN, managing director  
The Producers' Council, Inc.

Sirs:

. . . Favorably impressed by the Round Table conclusions. The discussions were as "down-to-earth" as any I have seen. The important thing now seems to me to be the job of "follow through."

CHARLES LAMPLAND, vice president  
Lampland Lumber Co.

### "... the money or the credit to buy them . . ."

Sirs:

. . . In the right direction . . . more attention must be given to old buildings.

Some of the economists talk about the construction industry being caught up with demand. They're wrong: American families will continue to insist on decent places to live in so long as they have the money or credit to buy them.

As long as employment is sustained, present activity in the construction field will continue.

The work you're doing with these Round Tables will accomplish much in this respect. The vision you are showing in organizing these groups will continue to create leadership for your publication.

MELWIN H. BAKER, chairman  
National Gypsum Co.

Sirs:

We agree most heartily with the plan formulated.

C. R. RAQUET, vice president  
F. C. Russell Co.

Sirs:

. . . Common sense and constructive thinking. . . .

The architect can contribute added value in styling and sales power. It is most important that the building industry as a whole should undertake to upgrade general appreciation of the value of the architectural function.

C. B. SWEATT, executive vice president  
Minneapolis-Honeywell Regulator Co.



Sirs:

... The most thorough and complete plan yet devised ... a workable solution to the housing problem.

JOHN WEINHART  
*Detroit, Mich.*

Sirs:

Read with great interest the Round Table Report, so clearly highlighting some of the underlying weaknesses of the housing business of this country ... and pointing out the important things to be done if we are to make the most of our opportunities.

H. R. PECK  
*Vice president and general manager  
Armstrong Cork Co.*

### **REALTORS object to rent control and FHA pressure for the too-cheap house**

Sirs:

Congratulations on both the conclusions and the constructive recommendations that resulted from your meeting.

The pressure for cheap housing by HHFA through FHA if continued will create new blighted areas. Existing single and multiple housing is available which can be rehabilitated and modernized to provide better and cheaper housing than that now being used. If this were encouraged, then new housing could and would be encouraged to meet the need of better housing.

I sincerely trust the HHFA and FHA will give favorable consideration to your Round Table recommendations.

BYRON T. SHUTZ  
*Herbert V. Jones & Co., realtors  
Kansas City, Mo.*

Sirs:

In recent years government has emphasized new construction and attempted to budget our housing needs not only in a quantitative but in a qualitative way. What people can afford to pay has been estimated on a basis of the residual amount left to them for rent or purchase. Your conclusions that more attention should be given to the existing stock of housing is certainly substantiated by the facts. Better facilities could be provided at a lower cost for middle-income occupants.

S. EDWIN KAZDIN  
*Real estate consultant  
New York, N. Y.*

Sirs:

We are all aware that if the basic idea of rehabilitating existing dwellings were properly implemented many of our slums could be entirely eliminated; and those not eliminated could be minimized.

The basis and amount of FHA financing are determined by the appraisal. The ap-

praisal of an older house is not in the same category as the determination of value on a new house. Most of the employees of FHA, following formulae established in Washington, determine new construction values on a simple matter of applied mathematics. The valuation of an older house requires much greater judgment. With this judgment must be coupled imagination so that the appraiser can visualize the final value of a completed project after rehabilitation.

As the price range increases the percentage of FHA loan ought to decrease. In any depression those one-family dwellings in excess of \$12,000 will slide off more percentage-wise than those dwellings under \$12,000.

GEORGE GOLDSTEIN, *MAI, appraiser-realtor  
Newark, N. J.*

Sirs:

I think it's a swell job and go along with it almost entirely.

It is not only FHA, however, but also the banks which must take a broader view in the financing of a rehabilitation program. The insurance companies and savings institutions too should attack this problem aggressively. I believe there is much that could be done on a long-range plan with conventional loans. Bankers, in my opinion, are ducking too much responsibility and trying to throw it on government.

The greatest contribution of FHA has been in improved methods which are now being applied in almost all conventional loans. But again I wonder if we are not leaning too heavily on government. We can never expect imagination and progress when we rely on bureaucracy.

JOSEPH W. LUND, *president  
National Assn. of Real Estate Boards*

### **Public housing to be given away, taxes to be paid in full!**

Sirs:

Unquestionably slums are created faster than private builders and public housing can rehabilitate them, because of unrealistic and unnecessary rent control. Equally important and extremely difficult to combat is politics. If government at the local level were serious about stopping slums, it would enforce existing fire, health and building codes. Yet officials in too many of our cities are closing their eyes to such conditions.

I have no sympathy with public housing in any form. In California the opponents to public housing, a year or two ago, published figures clearly demonstrating that it would be less costly to the local taxpayers for the government to build houses and give them away free and clear, provided full local taxes were paid.

I believe that featherbedding by unions is as responsible for high costs as obsolete codes. Some of them have gone too far in adopting practices which penalize their own members who share with all citizens the need for better housing at a price they can afford.

I sincerely believe that our economy can absorb a million living units per year for some time to come. To the 550,000 new families must be added the loss in homes due to obsolescence, fire, removal for commercial expansion, condemnation for highways, military establishments and air fields and the need for more vacancies.

There is no more effective weapon to combat the spread of public housing and to eliminate rent control than vacancy. Obviously, no one would like to see a high vacancy rate, but a more normal percentage would keep prices in line and put more properties on the market for rent. There are always those who cannot or should not own a home and no discussion in housing is complete without making provisions for this substantial element in our economy.

ALEXANDER SUMMER  
*past president of NARE.*

Sirs:

A factual, interesting and truthful statement of present housing conditions. ...

WILLIAM J. ELLIOTT, *realtor  
El Paso, Tex.*

Sirs:

I am in complete accord ... except the conference failed to consider the low cost of the partially completed home, which the home owner can himself complete.

HARRY R. BURGESS, *president  
Hampton Roads Realty Co.  
Elmira, N. Y.*

### **Not thrilled with pride**

Sirs:

... a great service to America.

Legislation which does not recognize geographic requirements and variations fails not only to aid approximately half of the nation but confuses and hurts that half.

In our territory, the lowest-priced new house that we have been able to offer is held to \$9,950. It is held down to that figure by cutting every possible corner of cost in sale expense, land cost, grading, elimination of sod, and by giving the barest minimum modern construction requirements. Those who are identified with it cannot by a stretch of imagination be thrilled with pride.

Of all the factors tending to make housing different, rent control is the most serious deterrent to a free use of both new and existing properties being built or converted.

R. H. THOMSEN, *MAI treasurer  
Clapp-Thomssen Co., realtors  
St. Paul, Minn.*